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Network-based storage virtualization finally materializes. PAGE 10

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JANUARY 27, 2003 ■ VOL. 37 ■ NO. 4 ■ $5/COPY

Funding Scrutiny May Spread

Ptech isn't unique in having suspected ties to terrorist financiers

BY DAN VERTON

Enterprise software company Ptech Inc. may be only one of many firms that could be investigated for having possible links to terrorist financiers, experts on terrorism and crisis management are warning. And other companies do in fact have histories similar to that of Ptech, *Computerworld* has confirmed.

"It behooves a company to look at investors, their reputations and where they have invested in the past," said Leonard Fuld, founder of Fuld & Co., a Cambridge, Mass.-based competitive intelligence consulting firm. "The onus is still on the companies."

Start-up firms, which tend to be especially anxious to make sales and attract investors, need to do more research into whom they do business with, said Larraine Segil, an expert in strategic

Ptech, page 45

Fujitsu Sets High-End Linux Plans

Unix server vendor embraces Intel chips and open-source OS

BY JAIKUMAR VIJAYAN

Fujitsu Ltd., which in the server market is known primarily for its high-end Unix systems based on Sun Microsystems Inc.'s SPARC architecture, last week said it plans to use Intel Corp.'s processors to develop a new family of enterprise-class Linux machines.

Tokyo-based Fujitsu said it hopes to start shipping dual-processor Linux systems in the second half of next year. The company added that the Linux line will be topped off by a 128-CPU server based on Intel's 64-bit Itanium 2 processor. That's the largest Intel-based commercial Linux system announced thus far, but it isn't slated to ship until 2005.

Fujitsu's planned move into

Fujitsu, page 14

JUST THE FACTS

Fujitsu's Linux Server Initiative

- The systems will be based on Intel's Xeon and Itanium processors.
- Fujitsu plans to start shipping dual-processor systems in the second half of next year.
- A 128-processor system is due for release in 2005.
- The company has set up a new Linux systems group with about 300 engineers.

Unilever Dumping Unix For Linux in Global Move

Buy-in from HP, IBM key as company embarks on decade-long systems standardization plan

BY TODD R. WEISS
NEW YORK

After years of running disparate Unix-based systems in its global IT server operations, Unilever is committing its technological future to Linux.

The $52 billion consumer products company plans to switch to Linux on Intel-standard hardware in all 80 countries where it operates. "We believe . . . that it will [meet] all of our computing needs in the eight- to 10-year time frame," said Colin Hope-Murray, CTO of the global infrastructure group at Unilever.

LINUXWORLD

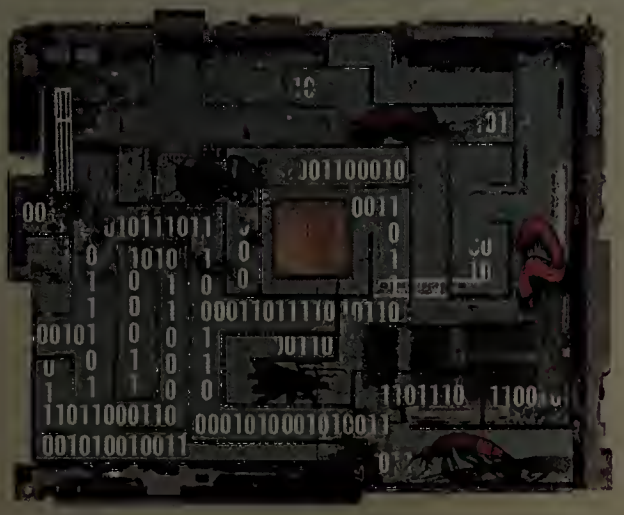
"We want to be able to cookie-cut our systems and deliver them around the world" without having to worry about operating system or hardware compatibility issues, Hope-Murray said. The company currently runs systems with Hewlett-Packard Co.'s Tru64 version of Unix and IBM's AIX, after having already migrated some applications off of HP-UX.

The company, which has dual headquarters in London and Rotterdam, Netherlands, made the announcement here last week at the LinuxWorld Conference & Expo.

Hope-Murray said Unilever will make the migration from Unix to Linux to simplify and standardize its IT architecture as well as to spread the reduced operational costs and increased performance the company has already seen using Linux for Web servers, e-mail servers, proxy servers and firewall applications. So

Unilever, page 14

Viruses GET Smarter



DAVID HOLLENBACH

The accelerating pace of new viruses – more than 7,000 last year alone – is just one problem facing security professionals. A new class of emerging viruses and worms is expected to attack multiple vulnerabilities simultaneously, exploit new ones, and try to steal data rather than simply destroy it. PAGE 21

NEWSPAPER

Managing mobility can be challenging.

That's why there's Windows XP and Office XP.

Recognize any of those issues? Or, perhaps, all of them? We thought so. Many of these issues can be related to your legacy desktop software. Fortunately, many of them can be addressed by features in Microsoft® Windows® XP Professional and Office XP Professional.

Want specific examples? Windows XP Professional offers new Remote Assistance, which enables you to view a user's screen and control the user's computer to solve technical problems from afar. Office XP Professional gives you installation support for HTTP, HTTPS, and FTP, which means you can install and maintain the suite directly from a Web server or a file share on your network. And finally, several new features make deployment easier than ever. For more ideas about managing your desktops, visit microsoft.com/desktop

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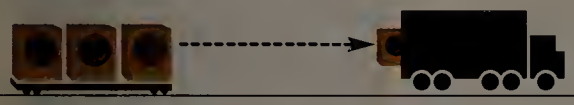

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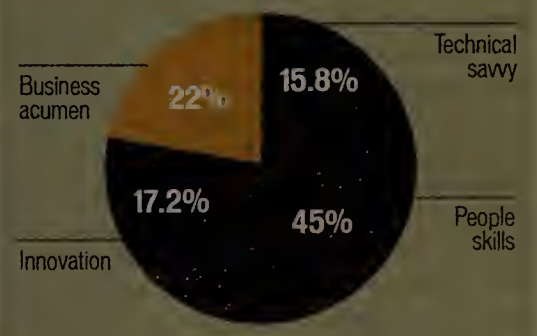
STORAGE Using policies and automation to manage storage resources. **QuickLink k1700**

QuickPoll Results

What is the most important quality for an IT leader?



Take this week's QuickPoll at **www.computerworld.com.**

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AT DEADLINE

Gates Provides Security Update . . .

A year after launching his Trustworthy Computing initiative, Bill Gates, Microsoft Corp.'s chairman and chief software architect, said in an e-mail to customers that efforts to better secure Microsoft products are continuing. "While we've accomplished a lot . . . there is still more to do – at Microsoft and across our industry," Gates said. He promoted the use of smart cards and said Microsoft is developing a system for sending security bulletins via e-mail.

. . . As Microsoft Posts Warnings

Prior to the release of Gates' message, Microsoft warned that a security flaw in the Microsoft Locator service included with Windows NT 4.0, 2000 and XP could be used to take control of systems. The company gave the problem a "critical" severity rating and urged users to install a new patch. Microsoft also warned of holes in its Outlook 2002 and Content Management Server 2001 products.

Top IT Executive Quits Merrill Lynch

Merrill Lynch & Co. announced in an internal memo that John McKinley will leave his job as chief technology officer and executive vice president of its Global Technology & Services unit at the end of next month. McKinley plans to take a job in the technology industry, according to the memo. Merrill Lynch said he will be replaced by John Cummings, chief operating officer of the technology and services group.

Short Takes

CISCO SYSTEMS INC. said it's buying Okena Inc., a Waltham, Mass.-based vendor of intrusion-detection software. . . . Worldwide server shipments grew 4.2% last year, according to San Jose-based DATAQUEST INC.

PKWare Adds Encryption To Compression Software

PKZip upgraded for Windows, Unix and IBM systems

BY JAIKUMAR VIJAYAN

PKWARE INC. last week said it's trying to make it safer for users of its PKZip data compression technology to send and receive files over the Internet by adding new encryption capabilities to the software.

The Brown Deer, Wis.-based company said Version 6.0 of PKZip for Windows and Unix users includes a new security module based on the BSAFE encryption technology developed by Bedford, Mass.-based RSA Security Inc.

The module lets users protect documents via password- or certificate-based encryption before they're transmitted, PKWare said. The company added that the Windows release also features new support for IBM's Notes software, which lets users compress and encrypt e-mail attachments.

PKWare also announced releases of its software for IBM's mainframes and iSeries servers that support up to 256-bit symmetric key encryption based on the Advanced Encryption Standard. The iSeries systems were previously known as the AS/400 line.

Securing Critical Data

Features such as the ones announced last week are crucial to corporate users who depend on PKWare's compression products to send or receive important data files, said Gene Knobloch, IS manager at Gilsbar Insurance Services Inc. in Covington, La.

Gilsbar has been using PKZip technology for several years to compress and send medical insurance claims data from its AS/400s to systems at its clients in the health care industry and to insurance companies and clearinghouses.

With an April 1 deadline looming for complying with the federal Health Insurance Portability and Accountability Act, Knobloch said Gilsbar plans to use PKWare's new software to compress and encrypt all records containing patient health information, as required by the law.

The new encryption functionality has been very easy to implement, he added. But Knobloch said many of the clients and insurers that Gilsbar deals with have standardized on encryption technologies developed by Palo Alto, Calif.-based PGP Corp. Because of that, it has been a challenge to get some of them to accept encrypted PKZip files from Gilsbar. "But we are taking that on one client at a time," Knobloch said.

PKZip and similar compression technologies have primarily been used at the client level in the past. But now, "there is significant interest in compression and encryption at the server level for batch file transfers," said David Thompson, an analyst at Meta Group Inc. in Stamford, Conn.

Encryption that's built in at the operating system level, which Microsoft includes with Windows, generally works well for protecting files on individual servers, Thompson said. But technologies like PKWare's can protect files even when they're transferred from one system to another, he added. ◗

PRODUCT DETAILS

PKZip

The data compression tool now includes the following capabilities:

- RSA's BSAFE-enabled encryption for Windows and Unix users
- Support for Notes, letting Windows users compress and encrypt e-mail attachments
- 256-bit encryption for users of IBM's MVS and OS/400 operating systems.

WorldCom, Sprint Take Transitional Steps to IP

Services designed to let customers migrate in stages

BY MATT HAMBLEN

NETWORKS

WorldCom Inc. and Sprint Corp. plan to separately offer corporate users more IP-based network service options, including virtual private network (VPN) capabilities that run on top of traditional technologies such as frame relay.

WorldCom last week announced the addition of real-time performance reporting and traffic management capabilities to its 2-year-old VPN service. Sprint today plans to launch three new services, including one designed to help users transition from frame relay circuits to IP VPNs.

Both companies realize that users who have tightened up their IT budgets because of the sluggish economy are unlikely to disconnect their frame-relay or Asynchronous Transfer Mode networks and move completely over to IP-based services at this time, said Max Smetannikov, an analyst at Current Analysis Inc. in Sterling, Va.

"WorldCom and Sprint are both developing in-between IP products for intermediate steps by customers," Smetannikov said. "Both are adapting to a new economic environment with incremental spending and slow migration."

Corporate spending on voice services is down, and investments in data services are generally flat, said Steve Harris, an analyst at IDC in Framingham, Mass. However, IP-based VPNs are one of the few bright spots for network operators, he said.

"Companies are clamoring for IP VPNs, and half of U.S. companies have one in place," Harris said. IP VPNs can help IT managers increase network security, simplify administration and lower costs compared with more traditional network alternatives, he noted.

Still, carriers such as WorldCom and Sprint make up a relatively small part of the IP VPN market. Harris said network-based services comprise about 10% of the market, with current annual spending at nearly $700 million. By comparison, $8.4 billion is spent annually for IP VPN equipment installed at customer sites, according to Harris.

Sprint will introduce frame-relay, private line packet-data and virtual LAN services built around its SprintLink native IP network. All of the services will be made available immediately. Company officials said frame-relay packets will run securely over SprintLink, making it possible for customers to still use their existing frame-relay equipment.

Pricing wasn't disclosed, but Pete Parish, director of product marketing at Sprint, said the new approach should save customers up to 20% compared with frame-relay fees, including the cost of permanent virtual circuits and port fees.

Harris pointed out that the new ability for users to monitor WorldCom's network performance could help the struggling company increase its business, since many network managers "don't trust the carriers" to meet agreed-upon service levels. ◗

Retailers Explore Java POS Systems

See benefits of portability, easy-to-modify code, as well as possible decrease in costs

BY CAROL SLIWA

Growing numbers of retailers are scoping out Java-based point-of-sale (POS) systems as one option to replace their aging cash registers.

Several retailers that are either deploying or piloting Java POS systems said they like the fact that the software can run on any hardware or operating system and also noted that they're finding the code easy to modify as their needs expand. Some also reported decreases in implementation and support costs, depending on the additional systems choices they have made.

"We want something that won't lock us into any particular platform and will give us the flexibility to deploy it in whatever way we'd like in the future," said Mike Prince, CIO at Burlington Coat Factory Warehouse Corp. in Burlington, N.J. Prince said his company has committed to a Java POS system on Linux and is rolling out the Linux operating system but has postponed the Java POS portion because of competing projects.

Robin Lynas, CIO at Mark's Work Wearhouse Ltd., a Calgary, Alberta-based chain that was acquired last year by Canadian Tire Corp., found himself peppered with questions from fellow retailers at the National Retail Federation Conference & Expo earlier this month in New York.

> **"We want something that won't lock us into any particular platform.**
>
> **MIKE PRINCE,** CIO, BURLINGTON COAT FACTORY

The Canadian retailer has rolled out its Java POS system from Retek Inc. to new Linux-based IBM terminals at 70 stores. Plans call for the rollout at the remaining 240 stores to be completed by the end of June.

"My guys said, 'Do we really want to pay Microsoft licensing fees? Why don't you go open systems?' " Lynas recalled. Once they proved that the POS system would run on Linux, he was sold.

Mark's Work Wearhouse claims to have lowered store opening costs by 30% and maintenance costs by 50%, in part because it no longer needs in-store servers. The registers will connect directly via frame relay to central servers at the home office, thanks in part to Java's networking class libraries, according to Retek Chief Technology Officer John Gray.

Another advantage that Mark's Work Wearhouse has found is the ease with which developers can bolt on new applications that connect to the POS system. Those include Web site, time sheet, business account and Web reporting applications, Lynas said.

"Retek gives you the Java source code for their POS application," Lynas said. "You just take the objects they've got and extend them and write your new functionality."

Java at Home Depot

Atlanta-based The Home Depot Inc., whose IT shop is heavily invested in Java, settled on a Java POS system from 360Commerce Inc. in Austin, Texas, so it would be able to migrate code between clients and servers running disparate operating systems, said Ray Allen, director of IT.

The POS terminals run Windows 2000, and the servers run different flavors of Unix from Hewlett-Packard Co. and IBM, Allen noted.

"POS applications typically live for 10 to 12 years, and they're very tightly integrated with whatever the retailer chooses to provide," he said. "So you're trying to make the best guesses for what might be going on five to six years down the road."

Allen said changes can be made "much easier and faster with a component-based solution, [distributed] architecture and object-oriented language like Java."

Jerry Rightmer, CTO at 360-Commerce, said building a POS system in Java was "a fairly risky decision" in 1997 when his company began developing products. But he said the list of Java POS vendors is growing and now includes PCMS Datafit Inc., JDA Software Group Inc. and Triversity Inc., among others.

"The language is easier to work with than previous generations of languages, it's more productive than C or C++, and it has all the benefits of object-oriented languages without some of the traps and pitfalls of C++ in particular," he said. "Plus, it has an extremely rich set of APIs that has made it easy for us to integrate with third-party middleware and databases."

Urs Karrer, an analyst at McLean, Va.-based BearingPoint Inc., which was formerly KPMG Consulting, said he thinks more vendors ultimately will opt for Java for portability reasons. But he's not so sure how much that will matter to customers. "Retailers don't care that much unless they have a custom development shop," Karrer said.

James Crawford, an analyst at Forrester Research Inc. in Cambridge, Mass., said the retail trend toward new POS systems has nothing to do with Java, Microsoft Corp.'s .Net or any other development platform. He said retailers simply want an open POS system that can be used with any hardware or software, as opposed to old POS systems that often had integrated and proprietary hardware, software and data platforms.

But Paula Rosenblum, an analyst at AMR Research Inc. in Boston, said the Java POS story has become interesting because of some very high-profile pilots, and she expects rollouts to escalate this year. ◗

Java POSitives

Reported benefits from Java point-of-sale systems include their ability to:

- Run on any hardware or operating system
- Run as thin clients on older hardware
- Be modified easily

New BEA Service Helps Java Developers Use XML

Separately, Sun ONE Studio gets modeling tool

BY CAROL SLIWA

BEA Systems Inc. today plans to introduce a hosted service that it claims will help Java developers incorporate XML data into their applications.

The San Jose-based company is launching a beta version of BEA XMLBeans through its Web site. Developers who submit XML schema will gain access to a set of Java classes that they can use in their applications to manipulate XML data, according to Carl Sjogreen, a senior product manager at BEA.

Sjogreen said companies invest in XML schema to describe XML data, but when they try to bring the XML schema into a Java application, they often lose the constraints or validation rules, since only the basic structure of the XML schema is preserved.

To work with XML, Java developers often have to write tedious code to walk through the low-level structure of XML information, or they have to force-fit XML data into their Java applications, Sjogreen said.

BEA plans to conduct a live online seminar on Wednesday at noon EST to explain how XMLBeans works.

Sjogreen said BEA will work to standardize XMLBeans either through the Java Community Process or the open-source community.

In a separate development, Sun Microsystems Inc. today plans to announce that a Unified Modeling Language (UML) tool from Embarcadero Technologies Inc. will ship with its Sun ONE Studio integrated development environment (IDE).

Jeff Anders, a group marketing manager for Sun ONE Studio, said customers have been asking for UML modeling capabilities in IDEs, and Sun chose Embarcadero's tool, in part, because of its tight integration with Sun ONE Studio.

A CD containing Embarcadero's Describe 6.0 product will ship in the same box as the next version of Sun ONE Studio, but developers who choose to purchase the license will have to contact Embarcadero, Anders said. Sun won't be selling the product. ◗

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Corrections

In last week's Page One story "GPS Jammers Raise Concern," there was an incorrect reference to the altitude of GPS satellites. The altitude is 20,000 kilometers.

Also last week, in a Q&A on page 5, the name of the former CIO at Sears was spelled incorrectly. The correct spelling is Jerry Miller.

BRIEFS

Microsoft Ships CRM Software

Microsoft Corp. has made its customer relationship management (CRM) applications available to users in the U.S. and Canada. It had delayed the CRM release last month but said the software should be ready within a matter of weeks [QuickLink 35263]. Versions of Microsoft CRM for users in Europe, Asia and Latin America are due in the second half of the year.

Forrester Agrees To Acquire Giga

In a deal that would combine two high-profile IT consulting firms in Cambridge, Mass., Forrester Research Inc. has agreed to buy Giga Information Group Inc. for $51 million in cash. No layoffs are currently planned, they said. The acquisition is expected to be completed next month if 90% of Giga's shares are pledged to Forrester under a tender offer.

Lucent Sees Loss, Inks Cisco Deal

Lucent Technologies Inc. reported a $264 million net loss on revenue of $2.08 billion for its first quarter, which ended Dec. 31. The revenue level was down 42% from $3.58 billion in the same period a year earlier. Murray Hill, N.J.-based Lucent also said it plans to resell some of Cisco Systems Inc.'s mobile voice and data networking equipment as part of its product line for network operators.

Short Takes

The judge overseeing SUN MICROSYSTEMS INC.'s antitrust lawsuit against MICROSOFT set Feb. 4 as the start of a 120-day countdown for Microsoft to include Sun's version of Java with Windows XP. . . . CISCO filed a lawsuit charging Chinese vendor HUAWEI TECHNOLOGIES CO. with unlawfully copying its internetworking software.

MARK HALL ■ ON THE MARK

Wintel Advocate Frets That High-Tech Duo . . .

. . . could hamper U.S. dominance in high-performance computing in the future. Coming from a RISC/Unix bigot, such concerns might be little more than sour grapes. But when uttered by David Lifka, CTO at the Cornell Theory Center (CTC) in Ithaca, N.Y., they carry much more weight. Lifka **designs supercomputing-class systems for 1,200 Cornell University scientific researchers,** scheduling more than 100 CPU-intensive programs that run only on Wintel systems from Dell and Unisys. Performance, reliability and cost are far better than anything from the RISC/Unix camp, he claims. Seven years ago, when Lifka arrived at CTC, the Wintel advantage was simply in cost or in the slippery metric of price/performance. That has all changed. "Right now, we're getting better performance, period, at a fraction of the cost," he says. Porting existing supercomputing applications to Windows was also a snap. The biggest, with 30 million lines of code, took a mere month to migrate. Moreover, users rave about the ease of use of Windows tools. The researchers like the fact that "they don't have to do computer science to do their own work." So, what's to gripe about? Lifka worries that the advent of "high-performance computing for the masses" combined with today's sour economy means **"users are not focusing on innovation."** Although Lifka has nothing but praise for Intel's Itanium 2 processor, "you don't want to have only one hardware vendor in town," he argues. "No single vendor can do it by themselves." Competition among supercomputer vendors brought countless benefits to commercial users with advances in the areas of multiprocessing, job scheduling, data analytics and others. If that competition evaporates, Lifka rightly wonders whether the advantages high technology gives U.S. business and science will disappear with it. ■ **Luckily, competition is rampant in the storage-area network (SAN)** management market, and that's leading to more feature-rich products. For example, McData Corp. in Broomfield, Colo., this week will unveil SANavigator 3.5 with significant advances in device management. One that should catch your eye is the software's ability to discover and monitor performance of IP gateways to Fibre Channel SANs. And in a release of SANavigator later this year, you'll get even more refined management of IP devices, such as oversight of an IP gateway's assignment to a Logical Unit Number within your SAN. ■ Speaking of IP management, on Feb. 17, SecureLogix Corp. in San Antonio will demo at VoiceCon2003 in Washington a prerelease version of its Enterprise Telephony Management TeleWall **security firewall for VOIP traffic going outside the campus** to an IP voice trunk. Although most companies today use a gateway to translate VOIP data to a standard telephony time division multiplexer format, company President Lee Sutterfield thinks the day will come when VOIP networks become widespread, with security a bigger issue. ■ The Web analytics market, **already chock-a-block with vendors, will get even more competitive** late next week when Sunnyvale, Calif.-based start-up ClickTracks Inc. releases its ClickTracks Analyzer. CEO John Marshall acknowledges that "it's a crazy time to start a company in a highly competitive market." But he thinks users will sit up and take notice of at least two advantages his software has. First, price. At $495, he expects **marketing directors will skip a couple three-martini lunches** just to play with the PC-based product that slurps data from any Web log and cranks out graphical views of Web site visitor behavior. Besides being cheap, the software answers questions that keep e-commerce gurus up at night. Such as, Are those terms you pay Google and Yahoo a small fortune for as successful as unpaid terms that bring visitors to your site? For IT managers who don't want marketing mavens downloading Web logs sober or otherwise, an enterprise version with central management features can be had for $1,495. ◗

Six Sigma Sanity

Companies engaged in quality assurance initiatives can upgrade this week to Instantis Inc.'s Six Sigma Project Lifecycle Management System 2.0 to assess and improve their business operations. In addition to a revamped user interface, the new version adds custom road maps, compatibility with LDAP directories to quickly add team-member rights and broader reporting and financial functions.

BMC Plays Catch-up on Network Fault Detection

BY MATT HAMBLEN

BMC Software Inc. today plans to announce the addition of fault management capabilities to its network performance monitoring tool, a move that's intended to close a functionality gap between the company and rival vendors.

Houston-based BMC said the addition of the new component won't result in a price increase on its Patrol Visualis software, which became available early last year and has a starting price of $40,000.

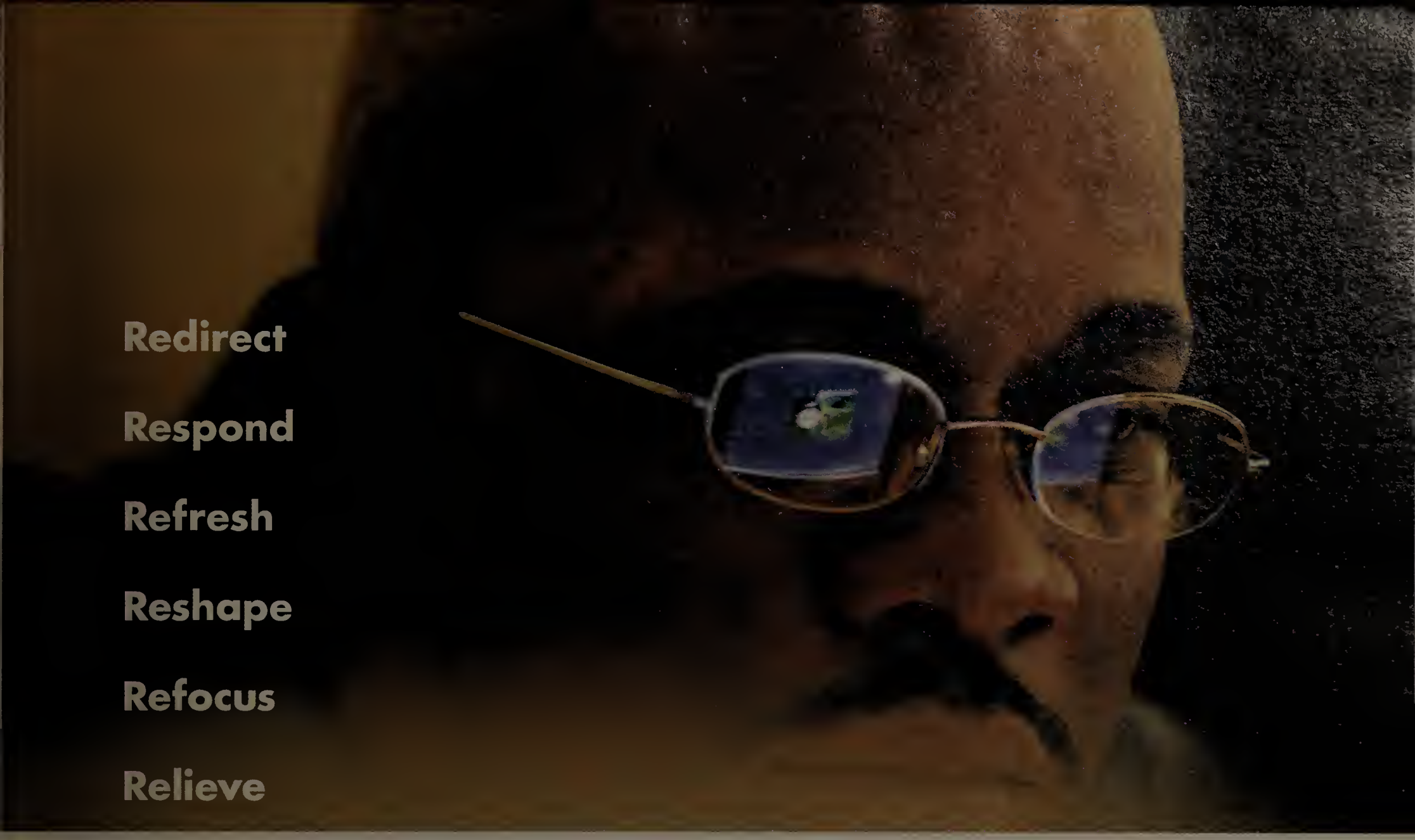
Gerry Roy, director of product management at BMC, acknowledged that the combined ability to provide users with performance data and to identify network faults and failures follows an industry trend. But the BMC feature is unique because it pairs the two offerings within a single graphical user interface, he claimed.

Canada Life Assurance Co. has tested BMC's Fault Manager tool and is considering using it to assist its help desk workers in spotting network problems, said Arkadi Chekhtman, a network specialist at the Toronto-based insurer.

"If somebody was looking from time to time at a network map, they could see a node change color if it goes down and see what other components it's related to and then inform people in the business unit," Chekhtman said. "There are tons of fault management tools, but I haven't seen one with the network map and fault management linked."

Analyst Jean-Pierre Garbani at Giga Information Group Inc. in Cambridge, Mass., said BMC's announcement initially was expected last year, "but better late than never."

BMC needs to offer both fault and performance management capabilities in order to win new customers for Patrol Visualis, Garbani said. He added that the rollout means that each of the top four network and systems management vendors — BMC, Computer Associates International Inc., Hewlett-Packard Co. and IBM's Tivoli Software unit — now provide the two features. ◗



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HP Plans SAN-Level Storage Virtualization

New software, switches aim to unify disk space across storage networks

BY LUCAS MEARIAN

IN ONE of the first attempts by a top IT vendor to support network-based storage virtualization, Hewlett-Packard Co. last week announced plans to use new software to let IT administrators manage all of the disk space on storage-area networks (SAN) as a single entity.

HP said that it plans later this year to make its VersaStor storage virtualization software available on a new class of SAN switches that San Jose-based Brocade Communications Systems Inc. will acquire through its proposed buyout of Rhapsody Networks Inc. in Fremont, Calif. VersaStor will also be integrated into HP's OpenView Continuous Access Storage Appliance (CASA), a bundled set of hardware and software that handles data migration and replication.

VersaStor will extend the reach of CASA to the network level, where the appliance will work with Brocade's switches to coordinate SAN operations and to make the various arrays and server-level storage devices attached to a network look like one big pool of storage space, HP said (see box).

Virtualization has become the cornerstone of efforts to develop more automated storage infrastructures. Currently, most vendors support server- or array-based virtualization, where the software is installed on a single device. Network-based virtualization promises to allow disk storage devices across an entire SAN to be centrally managed and provisioned.

For Rick Allen, director of IT operations at Gwinnett Health System in Lawrenceville, Ga., network virtualization offers the potential to simultaneously send real-time copies of data from different disk arrays to an off-site data center. That capability "makes the whole disaster recovery scenario a lot easier," said Allen, whose organization owns HP servers and storage devices plus equipment from IBM and Dell Computer Corp.

The network approach would also provide users with a single point of management for SAN-based storage, Allen added. "You're not having to virtualize at the machine level," he said.

The combined HP/Brocade product offering is the first incarnation of network-based virtualization from a major IT vendor, said Randy Kerns, an analyst at Evaluator Group Inc., a market research firm in Englewood, Colo. "Before, it was all small, independent companies with their own solutions," Kerns said.

However, a spokeswoman for Sun Microsystems Inc. said the company plans to ship virtualization software as part of its N1 resource-management technology initiative next quarter — ahead of HP's plan to release its technology during the second half of the year.

TECHNOLOGY DETAILS

The network-based storage virtualization approach planned by HP will work like this:

1) HP's CASA storage appliance **will create mapping tables detailing** where data from different servers is stored on a SAN.

2) The appliance **will load the tables into** Brocade's switch, which will direct the process of sending data to the right arrays.

3) The switch **will sit between the SAN infrastructure and individual storage devices**, making them look like one large pool of disk space.

4) The CASA appliance **will also manage replication** of data to backup storage devices.

Pooled Storage

Sun's offering will include software that it bought as part of its acquisition of Acton, Mass.-based Pirus Networks Inc. in November, the spokeswoman said. The Pirus technology lets IT managers pool storage from a variety of servers, including ones running Sun's Solaris operating system, other Unix releases, Linux and Windows.

VersaStor has been in beta testing for two and a half years and came to HP through its acquisition of Compaq Computer Corp. Testing of the software with CASA and Brocade's switches is expected to start in the summer, HP said.

Brocade has yet to complete its buyout of Rhapsody, which was agreed to in November. But the two companies said the deal could be finalized by the end of this month. ◗

Minerals Firm Unearths Remote iNotes Access

Imerys' woes solved by plug-in

BY TODD R. WEISS

Dave Bailey went to the Lotusphere 2002 conference when he needed information on how to deploy IBM's new Lotus iNotes Web Access software to 3,000 global users.

This week at Lotusphere 2003 in Orlando, Bailey, a senior consultant for global IT at Paris-based minerals supply company Imerys, aims to gather more information to facilitate his pending first-quarter deployment.

LOTUSPHERE

Bailey, who is based in Roswell, Ga., said last year's show provided several ideas for accessing iNotes using a reverse proxy server setup. He said he tried setting up iNotes with three different recommended proxy servers from Sun Microsystems Inc., Microsoft Corp. and IBM. But Bailey said none could be configured properly for his systems.

Bailey said he achieved the goal of giving his corporate users secure access to their e-mail via iNotes with a product from Whale Communications Ltd. in Fort Lee, N.J.

Whale's product, the e-Gap Remote Access Appliance, is a plug-in device that Bailey said met his reverse-proxy requirements, creating a protective security layer between his remote users and the company's Internet infrastructure. Pricing for the devices, which are essentially Secure Sockets Layer/virtual private network (VPN) appliances, begins at $23,000.

Richard Stiennon, an analyst at Gartner Inc. in Stamford, Conn., said Whale has been gaining attention recently because its appliances enable secure e-mail access through a Web site, while removing the need for an individual VPN. "Whale's been having tremendous success in that market space," Stiennon said.

Whale will be one of about 150 exhibitors at this year's Lotusphere, where keynote speakers will include former New York Mayor Rudolph Giuliani. The show's themes will go beyond Lotus to cover IBM WebSphere, DB2, Tivoli and hardware offerings. Lotusphere will go on for at least another five years, IBM said. ◗

Shippers Face Automation Task for Customs Deadline

BY LINDA ROSENCRANCE

Shippers and ocean carriers are scrambling to automate their systems to meet a Feb. 2 deadline for compliance with a new U.S. Customs Service regulation.

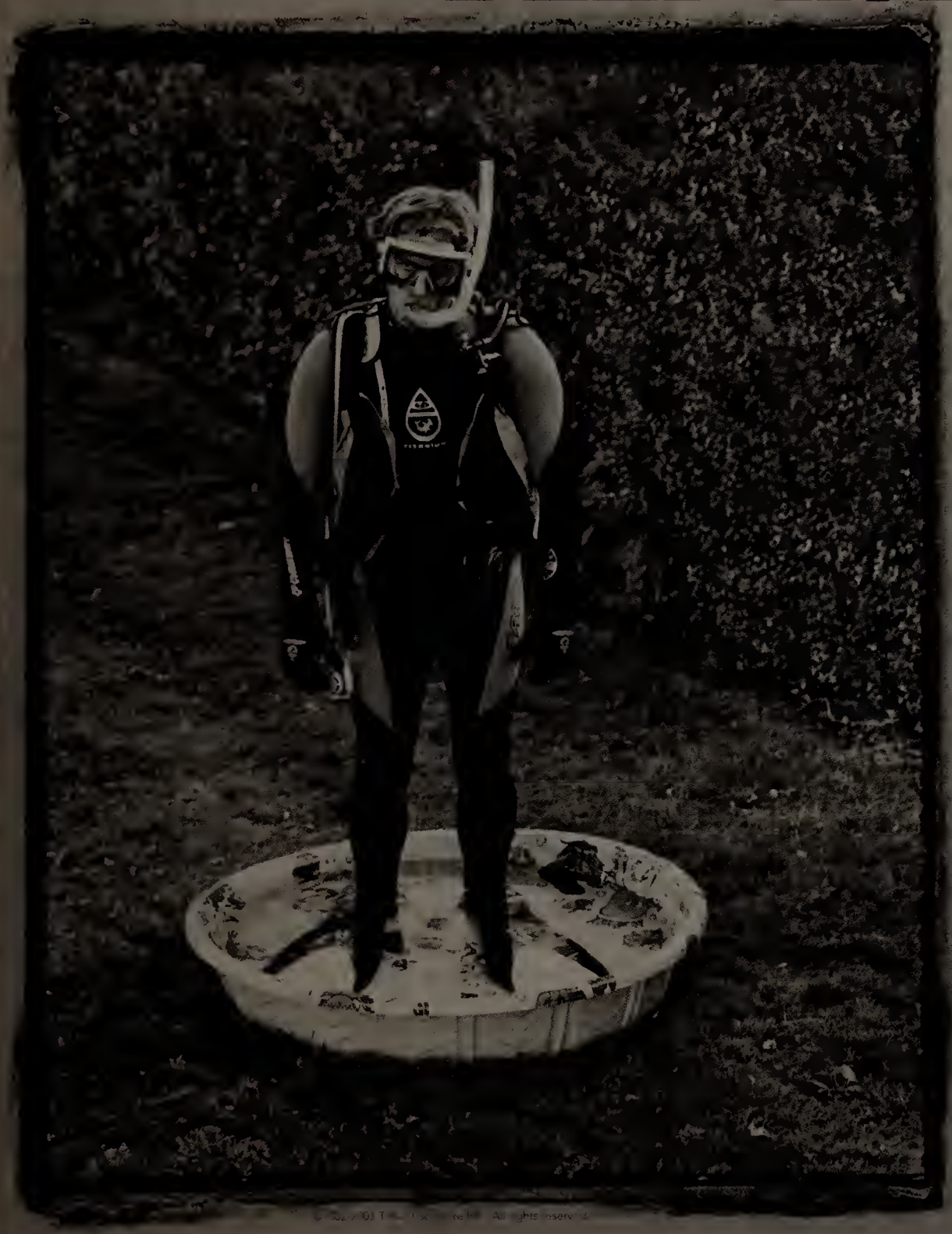
The Advance Manifest Regulation, also known as the "24-hour rule," requires shippers and ocean carriers that bring goods into the U.S. to electronically submit complete container-manifest information to Customs through its Automated Manifest System (AMS) 24 hours before the container is loaded onto a vessel.

John Gurrad, vice president of business planning and e-commerce at MOL America Inc., a carrier in Concord, Calif., said a portal for the ocean transportation industry such as GTN, which is operated by GT Nexus Inc. in Alameda, Calif., can help shippers, forwarders and carriers comply with the 24-hour rule.

GT Nexus President John Urban said GTN automates and standardizes transactions among shippers, forwarders and their ocean carriers. He said online tools already available at the GTN portal allow them to prepare and transmit key shipping documents. The GTN platform is integrated with the back-office systems of a host of carriers, he added.

Jack Maynard, an analyst at Boston-based Aberdeen Group Inc., said employing technologies such as GTN will be key to achieving compliance with the new regulations. The value of GTN, he said, is that it provides shippers with an electronic transaction platform that quickly sends information to their carriers, thereby reducing delays. ◗

THERE'S SHALLOW INTEGRATION AND THERE'S DEEP INTEGRATION.



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Big Outsourcing Shift Predicted for IT Jobs

Some IT managers don't foresee major workforce changes at their companies

BY THOMAS HOFFMAN

A NEW report on the IT labor market predicts that 35% to 45% of full-time IT jobs in the U.S. and Canada will be shifted to contractors, consultants, offshore technicians or part-time workers by 2005. And some analysts and IT labor experts said those figures, although eye-popping, may not be far-fetched.

However, four high-level IT managers said the predictions made in the report issued last week by New Canaan, Conn.-based Foote Partners LLC probably won't apply to their companies. For them, outsourcing hasn't proved to be a lower-cost alternative to keeping IT inside corporate walls.

"While there are times where I'd love to throw something to the outsourced den, so far we've found that it wouldn't be cost-effective for us," said Amy Courter, vice president of IT at Valassis Communications Inc., a Livonia, Mich.-based marketing services firm.

"We do everything in-house," noted John Studdard, senior vice president and chief technology officer at Lydian Trust Co., a financial services firm in Palm Beach Gardens, Fla. "The reason we've been successful in light of 9/11 and the economy and the bursting of the dot-com bubble is that we're in control of our own destiny and not locked into long-term contracts that may or may not be relevant to our business anymore."

Nevertheless, David Foote, president and chief research officer at Foote Partners and a *Computerworld* columnist, said American companies "can't afford to do application development in the U.S. anymore. The nature of the business has changed."

IT job sharing will also play a role in reducing full-time positions, Foote said. He based his estimates on surveys his company conducted last year with 1,880 private-sector and government employers, which were asked what percentage of their future IT workforces will be in-house vs. external.

ITCAREERS

Foote's timeline for such a massive workforce shift "is a little aggressive," said Maria Schafer, an analyst at Meta Group Inc. in Stamford, Conn. "It will be after 2006 before we get to that point." Schafer added that she still thinks application development and Web design are growth areas for IT workers in the U.S.

Cheaper Labor Overseas

But the shift of technical work to offshore operations by many companies "doesn't bode well" for American IT workers, Schafer said. The cost of some types of IT work is 20% to 50% less in places such as India, Eastern Europe and parts of South America, she said.

Although Foote's prediction "sounds radical now, it's not too far off the mark," said Jeremy Grigg, a New York-based analyst at Gartner Inc. "You've got this wholesale rush to the door for external, offshore services."

But William Finefield, CIO at the Navy Exchange Service Command in Virginia Beach, Va., said he doesn't foresee any rush to outsourcing at his organization. "Our experience has been that it costs us more to go outside [for IT services] than it does internally," he said.

A previous outsourcing deal left a bad taste in the mouth of Steve Hammond, vice president of information services at Plasti-Line Inc. in Knoxville, Tenn. Nine years ago, Plasti-Line outsourced its IT operations to what is now Accenture Ltd. But after running into problems with the contract, Plasti-Line opted not to renew the five-year agreement and began moving workers back in-house, Hammond said.

> **"We've looked at [outsourcing] and haven't seen the financial returns."**
>
> **STEVE HAMMOND**, VICE PRESIDENT OF INFORMATION SERVICES, PLASTI-LINE INC.

"We do ramp up and down on resources with contractors," he said. "But as far as flat-out outsourcing, we've looked at that and haven't seen the financial returns."

Foote and Grigg said IT workers facing displacement should retrain themselves in project management or technologies such as IT security and wireless networking — suggestions that map with the advice of panelists at an outsourcing conference in September [QuickLink 33217].

Corporate IM Software Makers Eye Wall Street

BY LUCAS MEARIAN

The adoption of instant messaging (IM) software by financial services firms mostly involves end users communicating via consumer-oriented products, often unbeknownst to IT managers. But vendors of enterprise-class IM products are trying to change that.

For example, Reuters Group PLC this month said more than 225,000 financial services workers worldwide, including 80,000 in the U.S., have signed up for the Reuters Messaging technology it launched in October. London-based Reuters collaborated with Microsoft Corp. to develop what is essentially the first version of the software vendor's upcoming corporate IM application, which is due out in June.

IBM wouldn't disclose end-user totals in the financial services industry for its more established Lotus Sametime software. But Jeremy Dies, a manager of collaboration offerings in IBM's Lotus Software Group, said eight of the top 10 commercial banks worldwide use Sametime.

IM is attractive to banks and brokerages because it can streamline both internal and external communications. But analysts and IT managers said uncontrolled use of the technology could open up firms to computer viruses and to regulatory actions by government agencies, which require that electronic communications be logged and stored.

Instant Upgrade

The following features aren't found in consumer-oriented IM applications:

- **Support for the Session Initiation Protocol messaging standard**, which lets users communicate across different IM products.
- **128-bit encryption capabilities** for secure communication outside corporate firewalls.
- **The ability to log and archive messages** for regulatory compliance purposes.

Products such as Sametime and Reuters Messaging include functionality that's designed to meet firms' security and regulatory compliance needs. The three top vendors of consumer IM products — America Online Inc., Microsoft and Yahoo Inc. — announced versions of their software aimed at corporate users last fall.

Seeking Security

Wells Fargo & Co. last year rolled out a set of Web chat and collaboration tools for its customers. Jim Smith, senior vice president of consumer Internet services at the San Francisco-based company, said Wells Fargo is now considering the purchase of an enterprise-class IM product in order to support one-to-one communications internally and with its customers.

Jim Lenz, senior vice president and co-manager of trading at Bridge Trading Co. in St. Louis, said the Reuters-owned brokerage began beta-testing Reuters Messaging last summer as part of an effort to cut down on the use of unauthorized IM tools internally and at the banks and clearinghouses with which it does business. "We heard from a lot of [users] that they needed something secure because more and more people were using AOL or Yahoo or something that wasn't secure," Lenz said.

But the use of consumer-grade IM software in the industry remains widespread, analysts said. For example, in a survey of financial services firms last fall by Osterman Research Inc. in Black Diamond, Wash., respondents said that about half of their end users had downloaded more than one consumer IM product.

In October, seven top firms formed the Financial Services Instant Messaging Association (FIMA) to push vendors to develop IM standards. But Ursula Mills, co-chairman of FIMA, said she doesn't expect the use of consumer-oriented services to stop anytime soon.

"Many of the customers are wanting to use the product of their choice," Mills said. "If that's AOL, Yahoo or MSN Messenger, then that's the product we want to use."

MORE THIS ISSUE
Archiving e-mail has become serious business for IT managers. **Page 33**

Some Oracle Users Report Success With 11i

Despite rollout problems, they say apps are paying off

BY MARC L. SONGINI
SAN DIEGO

Oracle Corp.'s oft-repeated promise that its business applications can help users slash costs and boost operational efficiency is finally starting to strike home with some companies that have installed its E-Business Suite 11i software.

Early rollouts of the 11i applications were often problematic, and Oracle had trouble persuading many of its existing users to upgrade. But at the company's AppsWorld conference here last week, eight users said their 11i installations have improved internal business processes and, in some cases, are providing returns on their investments.

Building on earlier promises to make installation of the software less complex, Oracle CEO Larry Ellison said during his keynote speech that the company is working to give users a firm idea of 11i costs upfront. "One thing we focused on is reducing the cost of the implementation and trying to make it predictable [so we can] tell you before we begin how much it will cost to run it every day," Ellison said.

Migration Moves

Percentage of Oracle's 13,000 business application customers that are actively using E-Business Suite 11i software, according to company officials:

53%

Percentage of current users that are in the process of migrating to 11i from older releases:

25%

Joshua Greenbaum, an analyst at Enterprise Applications Consulting in Daly City, Calif., said Ellison's vow marks a change for Oracle — and potentially for its rivals. "Providing complete total-cost-of-ownership [numbers] for all new deals will be hard to do, but it's doable," Greenbaum said. "And I think it's going to be an important competitive advantage that will force other vendors into promoting better understanding of the lifetime costs of their software."

Hosted versions of Oracle's call center, finance and other applications saved United Asset Coverage Inc. (UAC) more than $3 million during the first 12 months it used the software, said Brad Snook, vice president of client relationship management at the Naperville, Ill.-based telecommunications services provider.

Before going live with 11i in August 2001, UAC ran a hodgepodge of business applications. Oracle's software gave the company an integrated set of contract, billing and customer relationship management software that made it possible for individual call center workers to handle more inquiries, Snook said. "We made up what we spent in about a year," he noted.

ViewSonic Corp. also has seen a payback on its investment in 11i, according to CIO Robert Moon. But it took the Walnut, Calif.-based maker of computer monitors, projectors and other technology products two attempts to install Oracle's software before it succeeded.

Four years ago, ViewSonic tried to roll out a heavily customized version of Oracle's Release 10.7 applications. But that project lacked end-user participation and produced faulty data, Moon said. "It was a mess," he noted. "We were running a $1 billion business on Excel spreadsheets."

ViewSonic scrapped the 10.7 system and tried again, this time using 11i. The company went live with the software in November 2001 after a five-month installation. Since then, ViewSonic has consolidated its servers and seen a reduction in its hardware support costs, saving about $2.5 million annually, Moon said. ◗

FEDERAL FUNDS

The Bush administration's IT budget chief talked about the government's technology spending plans at AppsWorld:

QuickLink 35786
www.computerworld.com

Support Added For Older Apps

SAN DIEGO

At AppsWorld, Oracle detailed several initiatives that company executives hope will entice new users into the 11i fold. But the software vendor also made another concession to customers that are still running its older 10.7 software.

Oracle was scheduled to end its support for that release in June. But Mark Jarvis, Oracle's chief marketing officer, said 10.7 users will still be able to get access to some support services after the deadline. "We're not solving new bugs, but all information on current patches, and the knowledge base, will still be available to those customers," Jarvis said.

A document posted on Oracle's Web site said the "extended support" for 10.7 will last until mid-2004. Oracle will continue to provide telephone support to users who call about previously identified problems with the software, and it will also help 10.7 users plan migrations to 11i.

The ending of support for 10.7 has been a bone of contention between Oracle and its users since 1999. The company initially wanted to stop at the end of 2000, but it made a series of extensions in response to complaints from users who said they weren't ready to upgrade. Even now, according to Oracle, more than 20% of its application users haven't started migrating to 11i.

As expected, Oracle used AppsWorld to showcase a new line of bundled applications and consulting services designed to help users install specific 11i applications more quickly [QuickLink 35688].

Oracle also announced that it will offer 11i via a hosted subscription service priced at about $5,000 per month. The service is aimed primarily at companies with up to 25 end users and annual revenues of up to $25 million, Jarvis said. He added that Oracle won't customize the software for individual users.

– Marc L. Songini

Deal Moves Microsoft Into Web Conferencing Market

BY CAROL SLIWA

Microsoft Corp. last week extended its reach into the online conferencing and collaboration arena with the acquisition of privately held PlaceWare Inc.

Charles Zaragoza, a lead product manager in Microsoft's information worker product management group, said the company began talking to Mountain View, Calif.-based PlaceWare upon realizing that Microsoft didn't have the "secure, reliable, extensible" Web conferencing services its customers said they needed.

Financial details weren't disclosed.

Zaragoza said that although Microsoft's NetMeeting and other offerings were a good start, customers "are getting smarter about what they need." The PlaceWare services enable users to conduct real-time interactive presentations and meetings over the Internet via any PC and Web browser, according to Jennifer Callison, a senior director of marketing at PlaceWare.

Playing Catch-up

In a report issued last week, analysts at Stamford, Conn.-based Meta Group Inc. said Microsoft has made a concerted effort in the past year to catch longtime collaboration market leader IBM, but its most recent efforts with SharePoint Team Services and Windows Server 2003 instant messaging have yet to bear fruit.

Microsoft's Web conferencing efforts "seemed moribund" after unsuccessful runs with its peer-based NetMeeting and immature Exchange 2000 Conferencing Server, the Meta report said.

Rob Enderle, an analyst at Giga Information Group Inc. in Cambridge, Mass., said Microsoft's NetMeeting "runs out of steam" after six people join a conference. He said that although Microsoft hasn't been a major player in collaboration, "that's going to change pretty quick now."

JUST THE FACTS

PlaceWare Inc.

Mountain View, Calif.

1996

Started in 1990 at Xerox Palo Alto Research Center

PlaceWare Auditorium, a live, Web-based presentation product for field and customer communication

Competitors in online conferencing, such as WebEx Communications Inc., whose stock price fell following news of the Microsoft acquisition, will find themselves "in for a fight," Enderle said.

The acquisition is expected to be completed this quarter. Plans call for PlaceWare to be incorporated into Microsoft's newly created Real Time Collaboration Group, which will be headed by Anoop Gupta. Gupta worked in Microsoft's research division for five years and recently served as technical adviser to Chairman and Chief Software Architect Bill Gates. ◗

BRIEFS

CA Loses Money, But Sales Increase

Computer Associates International Inc. reported a net loss of $44 million on revenue of $778 million for its third quarter, which ended Dec. 31. That compares with a $231 million loss and $747 million in revenue during the same period a year earlier. CA also said federal officials have asked for copies of its contracts with 10 customers as part of an investigation into the company's accounting practices.

C&W Sets Plan To Replace CEO

London-based Cable & Wireless PLC (C&W) announced that CEO Graham Wallace will leave the company as soon as a replacement is found. For now, though, Wallace will remain in charge of day-to-day operations and C&W's cost-cutting efforts. The plan to seek a new CEO follows a November decision by C&W to largely withdraw from the U.S. Web hosting market.

Peregrine Submits Bankruptcy Plan

Peregrine Systems Inc., a San Diego-based vendor of asset management software, submitted a Chapter 11 reorganization plan to the U.S. Bankruptcy Court in Delaware. Peregrine said the plan seeks to maintain the company as an ongoing business instead of liquidating its assets. However, Peregrine added that a committee of its unsecured creditors opposes the proposal.

Rational Holders Approve IBM Deal

Rational Software Corp. in Cupertino, Calif., said its stockholders approved the $2.1 billion acquisition deal that the application development tool vendor signed with IBM last month. IBM's purchase of Rational is due to be completed this quarter.

Continued from page 1

Fujitsu

the Linux business is a welcome one, said Joe Beery, CIO at America West Airlines Inc. in Phoenix. "We had hoped that Fujitsu would do something like this," he said.

America West uses two of Fujitsu's 64-processor servers running Sun's Solaris operating system to power a variety of applications, including its core revenue management system. But, Beery said, "we are very interested in more cost-effective solutions."

The airline has already set some initial plans for using Linux, he added. For example, America West plans to switch its corporate portal Web site from Windows NT to Linux next month. As the open-source operating system becomes more reliable and the application development tools that support it mature, the company will likely migrate some of its more business-critical applications over from Solaris, Beery said.

Fujitsu's move is a sign of the growing interest in Linux within corporate IT departments, said Charles King, an analyst at The Sageza Group Inc. in Mountain View, Calif. "This is a resounding pat on the back for Linux," he said.

Linux Push

Fujitsu joins a list of server vendors, including IBM and Hewlett-Packard Co., that are aggressively pushing Linux for use in enterprise applications. "If you take a look at some of these announcements, the claims of some vendors that Linux is not ready for the enterprise qualifies as whistling past the graveyard," King said.

Jack Hirano, a deputy general manager at Fujitsu in New York, said the company also plans to use Intel's Xeon processors in its Linux servers. He added that Fujitsu, which makes its own SPARC chips, will continue to develop new Unix systems. But the Linux machines will broaden the company's enterprise server portfolio, according to Hirano. "We see a strong opportunity in the Linux marketplace, and we're confident that we can capitalize on it," he said.

Hirano said Fujitsu plans to deliver the same reliability, availability and scalability features on the Linux boxes that it does for its Unix servers. To that end, the company has created a 300-employee Linux systems group that will focus on porting its interconnect, clustering, systems management and grid-computing technologies to Linux.

Fujitsu, which has a large presence in Japan and Europe, isn't a big player in the U.S. server market. But it has been trying to expand its position here by using aggressive pricing to lure Unix users away from Sun's hardware, said Rich Partridge, an analyst at D.H. Brown Associates Inc. in Port Chester, N.Y.

He added that last week's announcement is a recognition by Fujitsu "that you just can't ignore Linux." Fujitsu executives are betting that they "can leverage the design of their big boxes and plop in a different chip," Partridge said. "It sounds like a smart reuse of their technology."

The Linux server plans significantly expand Fujitsu's relationship with Intel. Fujitsu Siemens Computers, a Cologne, Germany-based joint venture with Siemens AG, sells a line of lower-end Intel servers. But these will be Fujitsu's first high-end servers based on Intel processors. ◗

SPOTLIGHT ON LINUX

For more coverage, head to our Linux News & Features page:

QuickLink s1000
www.computerworld.com

Continued from page 1

Unilever

far, the company has no cost-savings numbers to release, but anecdotal evidence is bolstering its expectations, Hope-Murray said.

"We've got an awful lot of proof points," he said, including firewall servers that run three times faster under Linux, with cost savings of up to 40%. "Every time we put in Linux, we are amazed and surprised at its speed and the reliability with which we can run it."

He said Unilever expects to benefit from the expected release later this year of the Linux 2.6 kernel, which will introduce features that offer the tools needed for the transition, including real-time threading and improved journaling.

Unilever is making its move in a very vocal way to encourage independent software vendors to develop needed enterprise business applications for Linux, Hope-Murray said.

"It's not really a leap of faith," he said, noting that Unilever's two largest IT suppliers, HP and IBM, are committed to Linux and are ready to help with the project. "If our partners weren't committed to it, we wouldn't be doing it."

Getting an OK from top executives to commit to the strategy took time. "It wasn't overnight," Hope-Murray said. "If it wasn't for the twin support [from IBM and HP], we probably wouldn't have gotten the buy-in."

The company hopes to conduct internal testing with Linux versions based on the upcoming kernel by the end of this year. It's also applying for membership in the nonprofit Open Source Development Lab Inc. in Beaverton, Ore., which was created to encourage the development of enterprise data center and telecommunications applications for Linux. Unilever would be the first private company to join the group.

Desktops throughout Unilever will remain Windows-based, Hope-Murray said, though the company will monitor the possibility of switching those to Linux in the future.

He said he has been seeking alternatives to the company's infrastructure of three operating systems for more than a decade. In the early 1990s, the Open Systems Foundation, which promised a platform-independent Unix, tried but failed to provide the operating system he needed, he said.

Now, with the integration of the 2.6 kernel, Linux will have the maturity needed to handle Unilever's heavy-duty database, customer relationship management and enterprise resource planning applications, Hope-Murray said. Unilever officials declined to identify their database, CRM or ERP vendors.

Analysts said the confidence Unilever has in Linux has shown up elsewhere.

"That's consistent with other companies I've talked to in the financial industry," said George Weiss, an analyst at Stamford, Conn.-based Gartner Inc. "They're saying [Linux] will be fixed and firm in the future, and they want to be part of the wave."

Bill Claybrook, an analyst at Aberdeen Group Inc. in Boston, said Unilever benefits from having an extensive history with Unix, the model for Linux, and from having partners such as IBM and HP. "If they buy the stuff from IBM and HP, there's not really a big risk," he said. "They're going to get service and support." ◗

Unileveraging Linux

Over the next eight to 10 years, Unilever will move its server infrastructure from three versions of Unix to Linux. Its plans include:

- **Pushing CRM and ERP vendors** to build their applications to support Linux in large enterprises.
- **Joining the Open Source Development Lab** to encourage high-end Linux application development.
- **Testing the new Linux 2.6 kernel** to ensure increased flexibility.

HP Readies Four-CPU Blade Server

BY BOB BREWIN

Hewlett-Packard Co. last week introduced a four-processor blade server, becoming the first major hardware vendor to detail plans to ship a blade device of that size.

But corporate users will have to wait for nearly two months before they can buy the four-CPU system. Hugh Jenkins, vice president of marketing for HP's industry standard server group, said the new ProLiant BL40p device isn't due to be available for ordering until mid-March.

The BL40p will be based on Intel Corp.'s Xeon MP processors and will include built-in connections to Fibre Channel storage-area networks (SAN), Jenkins said. He added that the SAN connectivity capabilities will let IT managers hook the blade server to large storage clusters for use in running corporate applications such as messaging or enterprise resource planning systems.

Blade servers pack the functionality of traditional rack-mounted systems onto a single high-density circuit board, reducing the amount of space that the hardware takes up in data centers. HP and other top server vendors last year began shipping blade devices with one or two CPUs.

Behind a Start-up

HP's move to the four-processor level comes 10 months after Egenera Inc., a Marlboro, Mass.-based start-up, announced a blade server that also includes four Xeon chips and built-in support for Fibre Channel SANs.

Other vendors also have such systems in the works. IBM said it plans to introduce four-processor blade servers with SAN connections later this year. Dell Computer Corp. has four-CPU devices on its road map but declined to disclose its delivery plans.

CenterBeam Inc., an IT outsourcing vendor in Santa Clara, Calif., uses HP's existing blade servers to hold mirror images of the applications and files that it manages for customers.

Glenn Ricart, CenterBeam's chief technology officer, said the company plans to evaluate the BL40p once it's available. The four-CPU device could make it easier for CenterBeam "to scale both processing and SAN [capabilities] to meet whatever demands our clients have," Ricart said.

Pricing on the BL40p will start at $8,999, Jenkins said. HP also plans to release by mid-March an upgrade of its two-processor BL20p model with faster Xeon chips and the same SAN connectivity that's coming in the four-CPU device. The new BL20p will start at $3,399, Jenkins said.

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PATRICIA KEEFE

Clear on the Concept

"DON'T IT ALWAYS SEEM TO GO that you don't know what you've got till it's gone?" Joni Mitchell's refrain might explain the behavior of some vendors today. It's interesting, isn't it, how a dramatic drop in sales can achieve what reasonable complaints couldn't — undivided attention and prompt action.

PATRICIA KEEFE is a *Computerworld* editor at large. You can contact her at patricia_keefe@computerworld.com.

Oracle, for example, struggled last year with declining business application revenue. New license sales plunged in its last quarter, falling 34% worldwide and 50% in the Americas in year-over-year comparisons. This is bad news for the database giant, which is counting on its application business to help drive growth. So last week, Oracle stepped up efforts to address user complaints by revamping its sales force and rolling out a suite of applications designed so customers can quickly deploy pieces of its E-Business Suite 11i line.

IBM got into the act by rolling out new hardware along with significant pricing changes and upgrade options for its iSeries system customers two weeks ago. IBM hopes to revitalize sales of its 25-year-old midrange line by addressing long-standing user concerns and reigniting developer and reseller interest.

Picking up where she left off at Comdex, HP CEO Carly Fiorina prattled on to a European audience about how it's not the economy weighing down the IT market (It's not?), but rather "changes in customer requirements that are here to stay." Translated this means that suddenly sober customers now realize that, in Carly's words, "it's not the glamour of technology that is most important; it's return on technology that's most important." You don't want hot boxes and killer apps anymore; why, you want to cut your technology costs and align with business requirements! (And where would IT have gotten the idea that it had to have the latest and greatest?) Possibly caught up in the excitement, an HP partner actually suggested that customers have matured so much that "they really want to get the advertised benefits." You didn't want that before?

What's new isn't that customers have suddenly woken up and started demanding technology that works, but rather that vendors are beginning to take those demands seriously. Of course, they don't have any choice. Hardly anyone bought anything last year, and their earnings show it.

Moreover, it has become clear that the hoped-for turnaround in 2003 isn't going to happen. And no matter how much vendors play up their sudden enthusiasm for the midsize and small business markets, the fact is, they're pining for your business.

Wendover Corp., a sales and marketing intelligence firm that regularly surveys the country's largest companies on their budgeting and purchasing plans, puts it this way: Out of 14 million businesses in the U.S., 59% have 5 employees or fewer, while 79% have 10 employees or fewer. One-half of 1% have between 100 and 1,000. And only one-tenth of 1% — that's 14,000 businesses — have more than 1,000 employees. That's you, and that's where the money is. Do the math.

What's key is that big IT vendors are pitching 2003 as the year high-tech spending rebounds. And they now seem pretty clear on the concept that customers want their ROI, quickly. So, no matter how small that rebound, vendors seem extra determined to work for your business. Your business partners are listening like never before, so speak out and take advantage of it while you can. ◗

MICHAEL GARTENBERG

Three Top Tech Choices For 2003

IF YOU DON'T already have them in the pipeline, here are three technologies I'd advise pursuing in 2003. They all add features and benefits that will help make your users more productive and let you and your team get some positive visibility inside the company.

1. Corporate instant messaging: E-mail has become the lifeblood communications for most organizations. But it's not enough. Instant messaging is the logical next step in efficient enterprise communications. It lets managers work closely with direct reports and see who's available in real time. IM-related problems, such as control of user names, security and the ability to archive messages, are all being addressed by the leading IM vendors. 2003 is a good time to evaluate and implement IM.

2. Wi-Fi: The value of the connected vs. the disconnected user is no longer a debate. The importance of staying connected is well understood, but users are often constrained by the physical limitations of their network links. Wireless 802.11x network products give users the freedom to become "corridor warriors" and remain productive even when away from their desks.

When 802.11x is combined with hardware like Tablet PCs, users can remain online even during meetings, work with remote colleagues and roam from location to location. While IT has to put many security policies in place, 802.11x networks can add tremendous value to most organizations.

3. Streaming video: Do you think that streaming video means grainy clips the size of a postage stamp? Think again. Streaming quality has never been higher, and the cost has never been lower. New technologies from

Pimm Fox is on vacation. His column returns next week.

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Warren Bennis
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- Advisor to four U.S. Presidents
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Delta Air Lines

Scott Charney
Chief Security Strategist
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Steve Romaine
Chief IT Architect
The Hartford Financial

Tony LoFrumento
EVP of CRM
Morgan Stanley

Tim Buckley
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What is Unique?

Crafted by Computerworld editors, this conference offers a radical departure from the standard IT event. With a focus on great ideas, best practices and real applications of IT strategy, you gain direct insight from leading user organizations. The major sessions provide highly interactive, entertaining discussions with IT Leaders and industry experts — each moderated by Computerworld editors in a town-hall meeting format. Key topics center on the intersection of technology and business in areas critically important to today's IT manager.

CONFERENCE CHAIR:
Maryfran Johnson
Editor in Chief
Computerworld

CONFERENCE AGENDA

SUNDAY, FEBRUARY 23

Noon to 5:00pm
Pre-conference Golf Outing

7:00pm to 9:00pm
Pre-conference Networking Reception

MONDAY, FEBRUARY 24

7:00am to 8:00am
Buffet Breakfast

8:00am to 8:15am
Welcome and Opening Remarks
MARYFRAN JOHNSON, EDITOR IN CHIEF, COMPUTERWORLD

8:15am to 8:45am

Driving the Digital Factory: DaimlerChrysler's Design Automation Push
SUSAN UNGER, SVP & CIO, DAIMLERCHRYSLER AG

Escalating its use of IT in car design and factory automation, the world's third-largest automaker has embarked on a massive "Digital Factory" project aimed at reducing production costs by up to 30%. CIO Susan Unger will detail how the use of manufacturing simulation and visualization tools is enabling DaimlerChrysler to push IT beyond its traditional roles in the car manufacturing process, but more importantly, how the project is changing the way technology is leveraged for business benefit.

8:45am to 9:30am

Blueprint for Tomorrow's Infrastructure
PANEL MODERATOR: DON TENNANT, NEWS EDITOR, COMPUTERWORLD

PANELISTS INCLUDE: DAMIEN BEAN, VP OF CORPORATE SYSTEMS, HILTON HOTELS; JOAN DUNN, MANAGER OF ENTERPRISE COMPUTING, ANADARKO PETROLEUM; DAVID GUZMAN, SVP & CIO, OWENS & MINOR; DOUG LEWIS, EVP & CIO, SIX CONTINENTS HOTELS

With up to 80% of IT budgets earmarked for infrastructure upkeep and upgrades, attention to trends affecting the data center will continue to intensify in 2003. Major vendors are pushing a variety of utility and autonomic computing models, while disruptive technologies such as blade servers, Linux, wireless and Storage Area Networks (SANs) are also making inroads in enterprise computing strategies. How do you craft a coherent blueprint for optimizing data center spending? Should you be consolidating your computing resources? What role should your vendors play? Where will outsourcing make the most sense? Computerworld News Editor Don Tennant will lead this debate about the best ways to keep your company's IT infrastructure flexible, cost-effective and future-oriented.

9:30am to 10:15am

Creating Business Value Out of Real-Time Information
CURTIS ROBB, SVP & CIO, DELTA AIR LINES

In today's competitive market, businesses must deliver better customer service, turn inventory faster, and respond swiftly to changing circumstances. In this session, Curtis Robb addresses how Delta has leveraged a multi-year investment in a real-time, state-of-the-art infrastructure and the resulting business value it drives. From enhancing the customer travel experience through its self-service kiosks and gate information display screens; to forecasting and optimizing fleets, routes, pricing and inventory; the Delta Nervous System has transformed the business by delivering up-to-date information through a "publish and subscribe" architecture.

10:15am to 10:30am
Break

10:30am to 11:00am

The Vanguard Group: Leveraging the Web Across Multiple Business Channels
TIM BUCKLEY, CIO, THE VANGUARD GROUP

Technological excellence can be a means of helping clients to meet their goals, but the race to embrace new technologies must always make business channels the priority. At Vanguard, IT resources for Web development play a dual role on the business side, improving quality and relative savings for clients. In this session, Vanguard CIO Tim Buckley will examine how the $600 billion financial services firm has leveraged its website technology to integrate systems across multiple business channels, with results that include streamlined business processes, reduced costs, retired legacy systems, and most important, seamless service for clients no matter how complex their relationship with Vanguard

11:00am to 11:30am
Concurrent Sessions
IT User/Customer Case Studies

11:30am to Noon
Concurrent Sessions
IT User/Customer Case Studies

Noon to 12:30pm
Concurrent Sessions
IT User/Customer Case Studies

12:30pm to 1:30pm
Interactive Luncheon

1:30pm to 2:00pm

Thriving in the Virtual Organization: How Merrill Lynch Manages an Intricate Web of Strategic Partners
JOHN MCKINLEY, CIO, MERRILL LYNCH

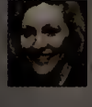
CIO John McKinley does more than talk about the virtual organization — he lives and breathes it with the 16-18 major service partners who are part of Merrill Lynch's extensive web of outsourced IT services. In this case study, McKinley will delve into the philosophies and practicalities behind the relationships the Wall Street powerhouse strikes with leading industry vendors, and how those relationships enhance and extend his IT organization. From classic score-carding to measuring the output from service level agreements, McKinley will talk about the range of metrics he uses to determine total cost-of-service delivery, and how he leverages these external resources for ongoing business innovation

2:00pm to 2:30pm

Brand and Deliver: IT's Role in Creating Killer Brands
ANDREW ZOLLI, LEAD PARTNER, Z + PARTNERS

Great brands are often the most valuable assets a company owns, and in the last few years IT has taken center stage in building some of the world's most important and valuable brands. Yet the relationship between the CIO and the Chief Marketing Officer remains one of the least explored in management. In this presentation technology and communications consultant Andrew Zolli will share stories of companies fusing thriving brands with information technology, and explore how IT and marketing can amplify each other's value and impact

2:30pm to 3:15pm



The Integration Imperative: Where Technology Gets Down to Business
PANEL MODERATOR: PRISCILLA TATE, EXECUTIVE DIRECTOR, TECHNOLOGY MANAGERS FORUM

CONFERENCE AGENDA

PANELISTS INCLUDE: JOHN C. CARROW, VP & CIO, UNISYS; ANDRÉ V. MENDES, CHIEF TECHNOLOGY INTEGRATION OFFICER, PUBLIC BROADCASTING SERVICE; JOHN OUNJIAN, CIO & SVP OF INFORMATION SYSTEMS, BLUE CROSS/BLUE SHIELD OF MINNESOTA; FRED POND, DIRECTOR OF INFORMATION SERVICES, THE SCHNITZER GROUP OF COMPANIES; TONY ROMERO, VP & CIO, INFORMATION TECHNOLOGY, MITSUBISHI MOTOR SALES OF AMERICA

As the [illegible] of new integration products and emerging Web services keeps [illegible]g, so too does the challenge of connecting the right data with the right customers at exactly the right time. Some companies are finding value in combining business intelligence tools with CRM software, while others are creating "digital dashboards" or concentrating on more cost-effective ways to exchange data between complex, disparate legacy systems. Regardless of your company's approach, the task of integrating enterprise applications is always mission-critical for IT leaders. Moderator Priscilla Tate will tap this panel's expertise on a variety of integration projects that have delivered measurable results, cost savings or enhanced customer service.

3:15pm to 3:30pm
Break

3:30pm to 4:00pm

A Tale of Turnaround: Reviving a Culture of IT Project Success at the Chicago Board of Trade

WILLIAM FARROW, EVP & CIO, CHICAGO BOARD OF TRADE

When CIO Bill Farrow arrived at the Chicago Board of Trade, it had been four years since any IT projects finished on time or on budget. The place was overrun with consultants, the technology was a poorly-managed hodgepodge of aging systems, and project management was nonexistent. Today, a streamlined, motivated IT group can point to 40 successful projects completed in the past year. In this compelling account of an 18-month-long IT turnaround, Farrow will detail how he and his staff became catalysts of strategic change at this 155-year-old financial exchange.

4:00pm to 4:45pm

IT Sourcing Faceoff: The View From Both Sides of the Fence

PRESENTATION & POINT/COUNTERPOINT: BART PERKINS, MANAGING PARTNER, LEVERAGE PARTNERS

PANELISTS INCLUDE: JOHN BIELEC, VP & CIO, DREXEL UNIVERSITY; CATHY BRUNE, SVP & CTO, ALLSTATE INSURANCE; MARTY CHUCK, CIO, AGILENT; MELANIE HEINTZ, IT STAFF DIRECTOR, FEDERAL RESERVE BANK OF NEW YORK; GEORGE LIN, VP & CIO, DOCUMENTUM

How your organization buys and deploys technology speaks volumes about the effectiveness of your overall IT strategy. With the marked shift from the sellers' market of the late '90s to today's buyers' market, the game has changed substantially on both sides of the fence. Former CIO Bart Perkins specializes in teaching CIOs how to more effectively manage their suppliers, and how to apply the same rigor to sourcing decisions as IT applies to building applications. In this point/counterpoint discussion, he will referee a frank, freewheeling dialogue between technology leaders from both vendor and user companies.

4:45 to 5:15pm

The New Language of Leadership

THORNTON MAY, FUTURIST

Joan Rivers asks, "Can we talk?" but Thornton May's new research poses the question: "Can IT leaders talk effectively?" Are you communicating what needs to be done in a way that gets somebody to do it? Based on an exclusive study of IT communication practices in a variety of venues — in boardrooms, in deliberation with senior staff, in counsel with peer executives, and in encounters with vendors, journalists, researchers and stock analysts — Thornton will detail the new language of leadership necessary for career success.

5:15pm to 5:30pm
Monday Wrap-up Remarks
MARYFRAN JOHNSON, EDITOR in CHIEF, COMPUTERWORLD

5:30pm to 8:30pm
Expo Open, Networking Reception and Buffet Dinner

TUESDAY, FEBRUARY 25

7:00am to 8:00am
Buffet Breakfast

7:15am to 7:45am

Motivating Geeks: How to Motivate Technical Staff without Breaking the Bank

PAUL GLEN, AUTHOR OF "LEADING GEEKS"

In this brisk and practical presentation, author and consultant Paul Glen will talk about why traditional approaches to motivation don't work well with geeks, how IT workers differ from other employees, and why conventional ideas about power and authority can actually get in the way of good management. This session will offer a host of effective ideas for motivating your staff, enhancing their performance and maintaining that necessary focus on the bottom line.

8:00am to 8:15am
Opening Remarks
MARYFRAN JOHNSON, EDITOR IN CHIEF, COMPUTERWORLD

8:15am to 8:45am

Cybercrime in Perspective: Leadership Strategies for the Real-Time Information Age

SCOTT CHARNEY, CHIEF SECURITY STRATEGIST, MICROSOFT

Never before in history have our personal lives and professional dependencies on computers, networks and real-time information escalated at such a rapid pace. Yet each week we hear of new attacks on the confidentiality, integrity and availability of those very systems -- everything from theft of personal information to distributed denial of service attacks that can cripple business operations. While such attacks can pose an alarming threat to our public safety, national security, economic prosperity and privacy, there are complex social issues and public policy questions raised as we work to prevent or respond to them. In this opening keynote, Scott Charney will cover the history and current state of cybercrime, talk about the challenges IT leaders face in confronting computer abuse, and suggest some options to consider for a safer future.

8:45am to 9:45am

Whose Disaster Is This, Anyway?

PANEL MODERATOR: DAN VERTON, SECURITY REPORTER, COMPUTERWORLD AND AUTHOR OF "THE HACKER DIARIES: CONFESSIONS OF TEENAGE HACKERS"

PANELISTS INCLUDE: ROB CLYDE, CTO, SYMANTEC; ROGER CRESSEY, FORMER CHIEF OF STAFF, CRITICAL INFRASTRUCTURE PROTECTION BOARD, THE WHITE HOUSE; BILL MALIK, CTO, WAVESET TECHNOLOGIES; RA VERNON, CSO & VP, REUTERS AMERICA; DANIEL J. WEITZNER, TECHNOLOGY & SOCIETY DOMAIN LEADER, WORLD WIDE WEB CONSORTIUM

Imagine a scenario that is equal parts physical disaster and massive cyberattack, forcing your company into a worst-case situation that makes business continuity of paramount importance. Now mix in several industry experts and IT leaders, each playing a specific role in this lively, "situation room" roundtable led by Computerworld security reporter and author Dan Verton. This panel will grapple with everything from federal politics and public agency responsibilities to private sector roles and reactions, as the responses of each executive drive the actions of the others in this unfolding disaster response exercise. The wrap-up will reveal the likely aftermath of the panelists' decisions, complete with lessons learned and useful ideas for your own business continuity planning.

9:45am to 10:15am

Featured Speaker

ROGER HAM, CIO, LOS ANGELES POLICE DEPARTMENT

10:15am to 10:30am
Break

10:30am to 11:00am

Starting from Scratch: Building CRM from the Ground Up

TONY LOFRUMENTO, EVP OF CRM, MORGAN STANLEY

Tony LoFrumento joined Morgan Stanley's retail organization in 2001 with the mission to implement a world-class CRM infrastructure and environment. In this front-lines account of his experience, Tony will describe how he created an analytical CRM environment and how it has delivered immediate impact throughout the company. He will discuss implementation issues, vendor selection rationale and performance measurement via the "Balanced Scorecard" approach, as he demonstrates how the newly implemented CRM capabilities are enhancing Morgan Stanley's customer connections.

11:00am to 11:30am
Concurrent Sessions
IT User/Customer Case Studies

11:30am to Noon
Concurrent Sessions
IT User/Customer Case Studies

Noon to 12:30pm
Concurrent Sessions
IT User/Customer Case Studies

12:30pm to 2:00pm
Expo Open and Buffet Luncheon

2:00pm to 2:30pm

The Consultant Who Came In From The Cold

STEVE ROMAINE, CHIEF IT ARCHITECT, THE HARTFORD FINANCIAL

Steve Romaine, now chief IT architect for The Hartford Financial, is also the author of "Solider of Fortune 500," an IT manager's expert guide to getting top work out of consultants. In this fast-paced presentation, he will dispel "The Three Myths of Consulting," provide solid, front-lines advice on selecting the right consultants and reveal his tested methods for getting IT employees and outside contractors working collaboratively and successfully together.

2:30pm to 3:15pm

Beyond Cost-Cutting: IT Projects That Prove Their Value

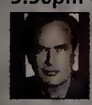
PANEL MODERATOR: JULIA KING, MANAGEMENT EDITOR, COMPUTERWORLD

PANELISTS: HARRIET EDELMAN, SVP & CIO, AVON PRODUCTS; JOHN C. MOON, CORPORATE VP & CIO, BAXTER INTERNATIONAL; TASOS TSOLAKIS, VP OF GLOBAL TECHNOLOGY, GXS (GLOBAL EXCHANGE SERVICES); HENRY VOLKMAN, DIRECTOR OF IT & CIO, DEL TACO

Proving that technology spending results in real business value is a perennial challenge for IT leaders, particularly in an extended economic downturn. But now that your staff is streamlined and your budget trimmed to the bone, what next? Computerworld Management Editor Julia King and her panelists will answer that question from several directions, detailing how to hand-pick projects for faster payback, more effectively manage the IT portfolio, balance tactical concerns with strategic vision, and identify the best places for IT-enabled business process improvements across the enterprise.

3:15pm to 3:30pm
Break

3:30pm to 4:00pm



Core Principles of IT Leadership

STEVE SCHUCKENBROCK, MANAGING PARTNER FOR CLIENT SERVICES, THE FELD GROUP

The profession of IT is still too much art and too little science, yet business needs clearly call for more exacting, predictable results. Our field needs to mature more quickly into a true profession, a discipline based on solid principles, where IT's potential can be realized. The Feld Group has leveraged the experience of its entire leadership group to develop 11 core principles that define great IT execution. Based on these field-tested principles, Steve will share his perspective for accelerating the profession and creating sustained value for your organization.

4:00pm to 5:15pm

Leading Through Tough Times and Beyond

WARREN BENNIS, DISTINGUISHED PROFESSOR OF MANAGEMENT, USC

The core competencies of great leaders reveal themselves more starkly during tough times, as distinguished author and business professor Warren Bennis will explain in this closing keynote speech. What do people want from their technology leaders? How do great leaders provide that direction? What are the implications for their companies? Based on illuminating interviews with 150 exemplary leaders, the author of such best sellers as "Leaders" and "On Becoming a Leader" will delve into the six core leadership competencies, showing how IT executives can successfully develop those qualities within themselves and their organizations.

5:15pm to 5:30pm
Final Remarks and Conference Summary
MARYFRAN JOHNSON, EDITOR IN CHIEF, COMPUTERWORLD

7:00pm to 7:30pm
Cocktail Reception

7:30pm to 9:00pm
Honoree Recognition, Gala and 'Best in Class' Awards Ceremony

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Microsoft, RealNetworks and Apple are near broadcast quality with relatively low bandwidth penalties.

Streaming technologies can make it easy for executives to get a message out to employees or to address the outside world. Because of competitive bandwidth pricing, live events have begun to yield manageable economics for most companies. If your company hosts or televises live events, you can now make use of the Internet and streaming video to improve returns on these expenditures at dramatically lower costs.

These technologies are probably in use inside your organization already. Users are more technically aware than ever before. They read the same trade magazines that we do and understand the benefits that technology can bring them. The result is they often can and will bypass IT.

Now is the time to take the initiative and either seize control or cede control to your users. Start your research and deploy early. ◗

EMMET COLE

Palladium Is Mythical Security

ACCORDING to legend, the Palladium was a sacred statue of Athena that the Trojans believed would protect them against the advancing Greek army. But when Odysseus sneaked into Troy and stole the Palladium, Troy did not fall. That happened only when the Greeks built the Trojan horse.

Mysterious and somewhat unfortunate mythological precedents aside, serious questions are being asked of Microsoft's forthcoming Palladium technology. Will Palladium fail to provide adequate security for its new wave of worshippers? Conversely, will this product enforce a degree of "protection" so stringent that the Internet's freedom of exchange and technological diversity will itself be at risk? Will Microsoft safeguard users or its own commercial interests? Given the ubiquity of Microsoft technologies in the business world, what kind of problems lie ahead?

The Technology. Part of Microsoft's contribution to the Trusted Computing Platform Alliance (a consortium founded by HP, IBM, Microsoft and Intel), Palladium is a software/hardware combination ostensibly designed to prevent piracy and protect corporate information.

Set for release possibly as early as 2005, Palladium requires a new chip technology being developed by Intel and AMD. This chip includes new encryption functions alongside a small memory capacity acting as a digital vault and holding the keys to decrypt protected data.

Freelance writer **EMMET COLE** can be reached at emmet2@esatclear.ie.

Palladium could be used to secure VPNs by enabling administrators to authenticate and identify computers on the network. It could protect networks against pirated software and malicious worms. Microsoft has apparently promised to release some of the code so that developers can study and debug the software.

So what's the problem?

Unnatural Selection. While Palladium will protect data, apparently it will do so in a selective manner by limiting users' software choices to those authorized and licensed by Microsoft and its allies: a virtual lock on your business's capacity to employ diverse technologies. This equates to chip-enforced Digital Rights Management (DRM). Microsoft owns a patent for a DRM operating system. If Palladium is bundled with future editions of Windows, will Microsoft have learned its lessons about fair business practice from its recent antitrust case. Can it protect its copyrighted material at the expense of other copyrighted materials?

It seems that computers running Linux or other non-Microsoft operating systems won't be able to use the chip. With many businesses relying on Linux, planners will face some serious choices. Should they work around Palladium, or abandon open-source systems altogether?

Planners should also consider whether complete homogeneity among the security technologies used by business networks would make it easier for hackers to cause damage. Common sense has to be abandoned when there is only one basket to put your eggs in.

"It's a terrible scheme," Philip Carinhas, a Texas-based Linux consultant told me. "Any attempt to control technology is inherently antitechnology. Unless a culture of acquiescence to Microsoft is overcome, however, many businesses will be stuck with it."

The outlook for non-Microsoft-approved technologies is bleak, but it will be an uphill battle for Microsoft to convince consumers and businesses that Palladium is a virtuous technology, intended to protect our city gates.

Me? I'm wondering what form the Trojan horse will take. ◗

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READERS' LETTERS

'Shut Up and Code' Has Shoddy Record

PIMM FOX'S entire column "Don't Leave OS Choice to Developers" [QuickLink 35462] could have been replaced with the phrase "shut up and code." The shut-up-and-code philosophy is nothing new. It dictates that the IT manager first asks developers for input into what tools they will use, then disregards them in favor of advice from one of his golf buddies.

To do shut-up-and-code right, it's imperative that developers not be told the overall goals of the organization. Then, when they complain about their glitchy, cumbersome tools, the IT manager can say, "You don't see the big picture." The truly adept shut-up-and-code manager prevents developers from directly communicating with end users – instead filtering data that will become specifications and design through himself or his sycophants, who understand little of what is practical to develop. What's the track record of shut-up-and-code development? For years, half the projects started were abandoned after considerable expense. Most of the other half came in very late and over budget.

Steve Litt
President, Troubleshooters.com, Orlando

Editor's note: Computerworld *readers had a lot more to say about Fox's column. See a longer version of this letter and more comments online [QuickLink 35671]. Then head to our discussion forum [QuickLink a2830] to see still more feedback and to post your opinion.*

Watching the Clock

IN THE FUTURE WATCH article "Computer Clocks Wind Down" [QuickLink 34969], Gary H. Anthes managed to cover all sides of the issue at once in a very comprehensible way. Few people understand the import of this issue, but I think some of the greatest technology debates of the next decade will focus on it. Hopefully, this article will make the rounds and begin to stir up some much needed debate.

David A. Somner
Director of IT services, StarDream Studios Inc., Fort Lauderdale, Fla., dave@stardream.com

It's Kind, Thrifty Too

WOW, IT'S JANUARY again, so it's time for us to think of Microsoft being trustworthy [QuickLink 35562]. Can we expect Microsoft to uphold the 12 points of the Boy Scout Law and take one of its tenets each month? You know, January, trustworthy; February, loyal; March, helpful; November, clean. And because we all worship Redmond, how appropriate that December's tenet would be "reverent."

Bill Ferguson
Monte Sereno, Calif., infohub@ix.netcom.com

Never Quite There

EVERY PUFF ARTICLE I've read about notebooks for the last umpteen years contains a variation on the phrase, "With power and features of notebooks rapidly approaching those of desktop computer systems. . . ." But of course, however rapidly they approach, they never do catch up in power and features, because there's always the lag involved in miniaturizing the latest desktop hardware evolution. And they will always represent compromise, because of their smaller keyboards, frustrating pointing devices, power management issues, greater fragility and limited drives, storage, memory and other shortcomings.

The simple fact is that in order to pay for the miniaturization and the mobility that it affords, you will always get less pure computing bang for the buck when buying a notebook. If you need the mobility and if the machine otherwise meets your needs, so be it – but enough with these transparently untrue old chestnuts. They belong with immortal phrases such as, "Most users will never need to access (a full megabyte; 64MB; 256MB; 1GB) of RAM" or "Most users will never need the speed of a (33-MHz; 166-MHz; 500-MHz; 1-GHz; 3-GHz) processor."

Jim Keller
Training director/PC manager, Rockland Children's Psychiatric Center, Orangeburg, N.Y., rcetjmk@omh.state.ny.us

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

More letters on these and other topics are on our Web site:
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October 25, 2002

SECURITY VALIDATION REPORT

Common Criteria Evaluation and Validation Scheme
NIAP
CCEVS Validation Body

National Information Assurance Partnership

MICROSOFT WINDOWS 2000

Awarded Common Criteria Certification
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Report Number CCEVS-VR-02-0025

Common Criteria

Common Criteria Testing Laboratory: Science Applications International Corporation
Columbia, Maryland

http://www.microsoft.com/servers/

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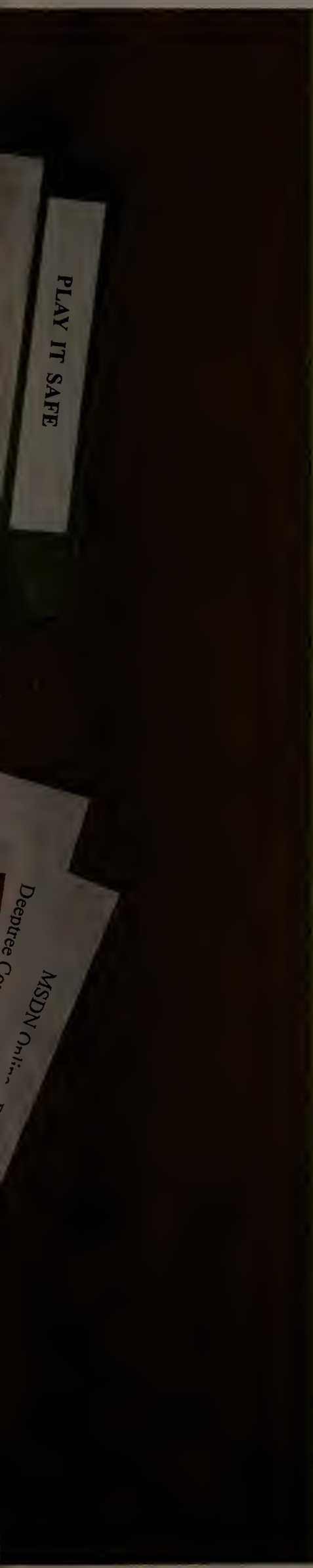

Trust the facts first. Microsoft® Windows® 2000* operating system has been awarded the highest level Common Criteria Certification for the broadest set of real world scenarios yet achieved by any operating system, as defined by the Common Criteria for Information Technology Security Evaluation (CCITSE). The Common Criteria (CC) is an internationally endorsed, independently tested, stringent set of standards that evaluate the security of technology products.

Windows 2000 desktop systems and server family were evaluated against CC requirements beyond the Controlled Access Protection Profile to include the following features:

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- Single Sign On
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These results arm you with an unmatched level of confidence as you select secure products for your environment and mark an important milestone on the road to providing you the highest level of assurance in Windows and all Microsoft products.

For all the facts on Windows 2000 Common Criteria Certification and managing your security risk with Windows 2000, visit **microsoft.com/CCcertification Software for the Agile Business.**

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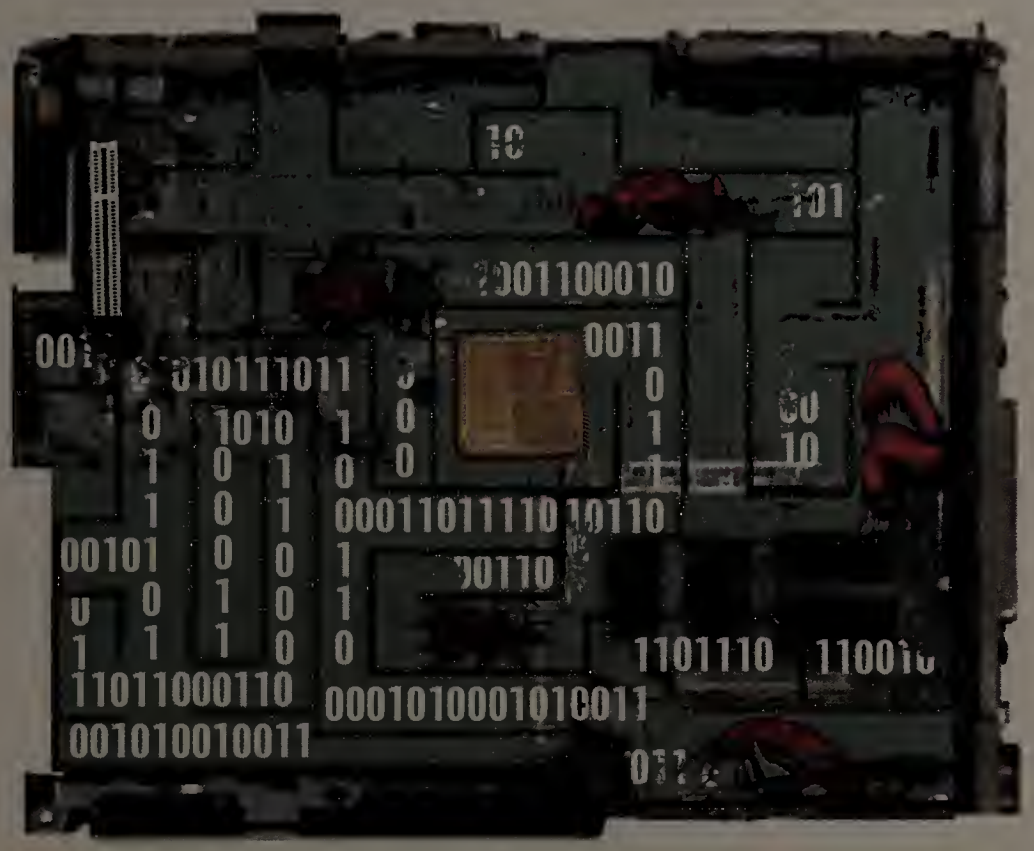
FUTURE WATCH
Intelligent Storage
Products that ship in three to five years may feature object-based storage technologies, which promise to reduce server I/O and eliminate the need for clients to speak in either blocks or file format. **Page 28**

SECURITY MANAGER'S JOURNAL
Security Problems Sideline Survey App
A security assessment leads Mathias Thurman to discover that a Web-based survey application leaves sensitive data unprotected. **Page 30**

OPINION
Catch the Wireless Wave
Wireless networks in the enterprise really are inevitable, and what's more, they'll be arriving soon at a corporation near you, says Technology editor Tommy Peterson. **Page 31**



DAVID HOLLENBACH

The next generation of viruses may be more difficult than ever to prevent — and more destructive. By Dan Verton

Viruses GET Smarter

HE'S BEEN A VIRUS writer for seven years. He goes by the handle Melhacker and may have been responsible for the recent outbreak of the Bugbear worm, the second most prevalent worm on the Internet last year. Now he claims to be working on a new virus, Scezda, that represents a new type of threat.

Scezda, as he describes it, falls into an emerging category of megaworms that combine features from some of this year's most prolific worms and viruses, including Sircam, Klez and Nimda. It uses a random number generator to determine how long it will remain dormant on a target system. Then it randomly chooses one of many different methods to replicate itself.

This is the essence of the new era of megaworms, what some experts refer to as blended, or polymorphic, threats that rely upon multiple methods of propagation. And that's just one way in which the virus threat is evolving.

Current Threats

This past year, researchers at Lynnfield, Mass.-based Sophos Inc. detected 7,189 new viruses, worms and Trojan horses, bringing the total to more than 78,000. On average, the Sophos virus labs produce detection routines for more than 25 new viruses each day.

Nine of the top 10 viruses detected by all major virus-protection companies in 2002 were mass-mailing viruses that exploited known vulnerabilities in the Win32 application programming interface. And 87% of all reports of infections stemmed from Windows viruses.

Continued on page 24

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Viruses GET Smarter

"Today, the line between worms and viruses is blurred as successful designs take on characteristics of both and spread over the Internet.

DAN INGEVALDSON, TEAM LEADER, INTERNET SECURITY SYSTEMS INC.'S X-FORCE GROUP

Continued from page 21

"Worms that are targeting known vulnerabilities are continuing to climb," says Vincent Weafer, senior director of the Symantec Security Response group at Cupertino, Calif.-based Symantec Corp. "That's significant because you're moving away somewhat from social engineering."

The most significant weakness exploited last year was the so-called malformed MIME vulnerability, originally discovered in 2001. Although a patch has been available for more than a year, viruses and worms have been able to capitalize on this vulnerability on unpatched machines to automatically execute a virus program when a user views an e-mail in preview mode.

Brid, Bugbear, Nimda and Klez all use this vulnerability, says Weafer.

"Today, the line between worms and viruses is blurred as successful designs take on characteristics of both and spread over the Internet," says Dan Ingevaldson, team leader of Internet Security Systems Inc.'s X-Force group. "The most successful worms act like a Swiss Army Knife, because they can spread by using many different proven methods, such as mass e-mail, Web server vulnerabilities or peer-to-peer technologies."

Virus Evolution

In the near future, companies will need to be prepared to deal with increasingly stealthy viruses carrying more destructive payloads, say researchers. In a recent research paper, Stuart Staniford, CEO of Silicon Defense in Eureka, Calif., outlined the emerging "threat of surreptitious worms that spread more slowly but in a much harder to detect 'contagion' fashion."

"We demonstrate that such a worm today could arguably subvert upwards of 10 [million] Internet hosts," Staniford concludes.

Anti-Virus Emergency Response Team (AVERT) researchers at McAfee Security, a division of Network Associates Inc., say they encountered a virus that took advantage of the New Technology File System (NTFS) Alternate Data Streams (ADS) feature, which allows data to be stored in hidden files that are linked to visible NTFS files — and can't be removed without deleting the NTFS file itself.

Users who don't have permission to write to a file can't add an ADS to it. And although Windows File Protection, introduced in Windows 2000, prevents hackers from replacing protected system files, it doesn't prevent an authorized user from adding ADSs, along with hidden, executable code, to those system files.

ADS's primary purpose is to enable compatibility with the Macintosh file system. But in September 2000, McAfee discovered a virus named Win2K.Stream that attempted to conceal itself in an ADS. This works because most antivirus products don't scan the ADS, says Vincent Gullotto, vice president of AVERT. McAfee has added this capability. But so far, Gullotto has seen no other instances of this technique.

The intentions of virus and worm writers are also changing. In the past, most worms and viruses destroyed data. Now, however, there are indications that the masters of malicious code are looking to steal that data.

"We'll see a progression toward targeting data," says Gullotto. "We saw that this past year with Sircam, which randomly took documents out of the MyDocuments folder."

Virus Trends To Watch

These worms and viruses change every time they replicate and target multiple vulnerability points instead of exploiting just one weakness.

Like Sircam, which removed files from the user's MyDocuments folder, new viruses will be designed to steal data – not just destroy it.

Virus writers will exploit a broader range of weaknesses, such as attaching viruses to Windows NTFS files as linked, hidden Alternate Data Stream files.

Virus and worm program writers are probing Microsoft's .Net Framework and developing programs that may leverage weaknesses in the framework and associated executable files.

Symantec's Weafer agrees. "Payloads have moved from data destruction to dropping Trojans and compromising machines, as well as sending information from the machine out of the network," he says. "You have to update your security patches."

Chris Wraight, a technology consultant at Sophos, says "combined cocktail threats" will be much harder for users to eradicate. Such a worm "might drop a Trojan, another virus, or it might replicate on another occasion," he says. So just because you've uncovered one instance of the malicious code, it doesn't mean you've discovered all infections.

And while the vast majority of worms and viruses are written to target known vulnerabilities in Windows platforms, some researchers are warning Linux and Unix users to beware. The September outbreak of the Linux Slapper worm, for example, infected more than 20,000 machines and could be used for denial-of-service attacks, says Weafer. "We're mixing Linux and Windows systems in the corporate world all the time," he says. "People who have Linux and Unix systems assumed they were immune. We know that's not true."

Microsoft Corp.'s .Net Framework may also become a major target for some virus and worm authors. "Alcopaul," a member of the group Brigado Ocho, recently submitted his creation to antivirus research labs for evaluation. Although Alcopaul says his worm, topeace.exe, doesn't destroy data, he claims that it is capable of turning off antivirus software, disabling firewalls, spreading to the Kazaa file-trading program and mailing itself to e-mail addresses it harvests from the Temporary Internet Files folder via the Simple Mail Transfer Protocol.

Antivirus vendors are still studying Alcopaul's worm to determine what specific vulnerabilities it exploits. However, past .Net worms have infected .Net executable files.

Although only users running Windows XP with Service Pack 1 have the .Net Framework installed, Alcopaul's vision is on the future. And that's the rub for his targets — trying to find the right balance between acting on current threats and thinking about future ones.

For now, the best protection is to stick with the basics, says Weafer. "Pay attention to security updates and lock down unnecessary services." ◗

AN OUNCE OF PREVENTION

Find out what you can do to avoid future virus threats:

QuickLink 35603
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AGENTS OF CHANGE

Software agents tame supply chain complexity and optimize performance. By Gary H. Anthes

WHEN IT COMES to IT projects, it doesn't get much better than this: Procter & Gamble Co. saves $300 million annually on an investment of less than 1% of that amount.

Indeed, P&G's use of agent-based modeling helped it transform its supply chain system so fundamentally that the company no longer even calls it a supply chain. The Cincinnati-based maker of Tide, Crest, Pringles, Pampers, Clairol and 300 other products now calls its connections to 5 billion consumers in 140 countries a "supply network."

"*Chain* connotes something that is sequential, that requires handing off information in sequence," says Larry Kellam, P&G's director of supply network innovation. "We believe it has to operate like a network, like an internet, so everybody has visibility to the information."

Many of the insights that have enabled P&G to transform a chain into a network come from agent-based computer models it developed with BiosGroup Inc. in Santa Fe, N.M. Their work is a real-world example of what mathematicians call "agent-based modeling of complex, adaptive systems," a discipline pioneered by BiosGroup and other mostly Santa Fe-area companies, laboratories and think tanks.

The idea is that many systems that are enormously complex overall are in fact made up of semiautonomous local "agents" acting on a few simple rules. By modeling and changing the agents' behavior, one can understand and optimize the entire system (see FAQ).

Agent-based modeling, while not yet commonplace, is catching on, especially at companies with large, complex supply or transportation networks. In addition to P&G, the following companies have tried it and cite benefits that include cost savings, reduced inventories and better customer service:

- Southwest Airlines Co. used software agents to optimize cargo routing.
- Air Liquide America LP, a Houston-based producer of liquefied industrial gases, reduced both production and distribution costs with agent-based modeling.
- Merck & Co. used agents to help it find more efficient ways to distribute anti-HIV drugs in Zimbabwe.
- Ford Motor Co. used agents to simulate buyer preferences, suggesting packages of car options that optimized the trade-offs between production costs and customer demands.
- Edison Chouest Offshore LLC, an offshore service company in Galliano, La., used agents to optimize its deployment of service and supply vessels in the Gulf of Mexico.

In P&G's computer simulations, software agents represent the individual components of the supply system, such as trucks, drivers, stores and so on. The behavior of each agent is programmed via rules that mimic actual behavior, such as, "Dispatch this truck only when it is full" or "Make more shampoo when inventory falls to *x* days' demand."

The simulations let P&G perform what-if analyses to test the impact of new logistics rules on three key metrics: inventory levels, transportation costs and in-store stock-outs. The models considered alternate rules on ordering and shipping frequencies, distribution center product allocation policies, demand forecasting and so on.

"Some of the conclusions were surprising, and some confirmed what we believed but didn't have the data to support," Kellam says.

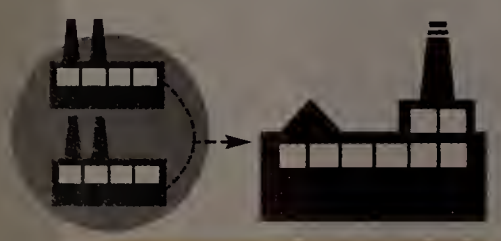
For example, he says, the models showed that it would often be advantageous to send out trucks with less than full loads, something P&G almost never did before. Although transportation costs would be higher as a result, P&G could more than make that up by reducing the frequency of in-store stock-outs, which often result in lost sales.

"Agent-based modeling convinced us of some changes we fundamentally had to make if we were to be flexible and adaptable," Kellam says, explaining that changes fell into the following three broad areas:

- Relaxation of rigid rules, often counterintuitively, in order to improve the overall performance of the supply network. That required some cultural changes, such as convincing freight managers that it's sometimes OK to let a truck go half full.
- More flexibility in manufacturing. As a result of insights gained by the

P&G's Agent-Enabled Supply Network in 2008

By 2008, P&G will have shortened the end-to-end replenishment cycle for a box of Tide from four months to one day. Here's how:



1 It's 2008, and P&G has replaced its numerous specialized plants with a few "flexi-plants" – highly versatile facilities with quick turnaround capabilities

2 Software agents of a key supplier detect a looming hurricane that threatens a Puerto Rico operation. They alert P&G's software agents and work with them to create an alternative delivery schedule so P&G's Miami plant doesn't face a material shortage.

3 The Miami facility, like every P&G plant, bids via software agents for its next production run based on its capability to deliver its current job, its queued work orders and its just-in-time materials supply capability. Its low-cost bid to produce Tide wins.

4 When pallets of Tide reach P&G's distribution centers, they're dynamically dispatched, with priority given to retailers whose inventories are very low.

SOURCE: FORRESTER RESEARCH INC. AND PROCTER & GAMBLE CO.

FAQ: Agent-based modeling of complex, adaptive systems

What are "complex systems" in this context? These are non-computer systems, such as a company's supply chain. A system is "complex" when it has so many variables and interacting forces that it can't be understood in its entirety or optimized by traditional, top-down approaches.

How can you tame this complexity? Although these systems are complex overall, they use a few simple rules at local levels. For example, in a supply chain system, a rule in a warehouse might be, "Fill orders on a first-in, first-out basis," or "Don't send this truck out on delivery until it is full." Dozens or hundreds of these local "agents" – truck dispatchers, say – acting autonomously produce complex behavior by the system as a whole. It's possible to simulate this complex behavior by programming software agents with a few rules and letting them interact with one another. By optimizing the agents' activities at a local level, it's possible to improve the performance of the system as a whole.

Why are these systems called "adaptive," and why are they sometimes likened to ant colonies? Ants individually have extremely primitive brains, yet collectively they run surprisingly sophisticated and efficient operations. With no central direction, they divide responsibilities among themselves, find food, build and maintain their nests, tend to their young and respond to attacks. And the colonies adapt; if you block access to a source of food, ants will find an alternate route to the food. Complex adaptive systems do the same. For example, if Plant A can't satisfy a customer order because it's temporarily out of a raw material, Plant B may fill the order. Plant B may do this "automatically," based on simple local rules without direction from a central authority.

What is meant by "emerging behavior"? Like ants, individual agents can modify their rules to adapt to changing circumstances, and this can alter the global behavior of the system, often in unpredictable ways. Sometimes small, local changes can have big system impacts, just as a tiny disturbance in the atmosphere over Africa can lead to a hurricane days later in the Gulf of Mexico. Agent-based modeling can help us understand and predict these emerging behaviors and help us devise new rules for the local agents that will improve the performance of the system as a whole.

– Gary H. Anthes

models, P&G is "fundamentally retooling" its manufacturing processes so that it no longer produces long runs of a single product but instead is able to produce every product every day. The benefits include fewer stock-outs and happier customers.

■ More flexibility in distribution. For example, it's possible to restock a retailer in 24 hours rather than the customary 48 to 72 hours.

P&G uses supply chain management software from SAP AG, but it turned to a tiny New Mexico company when its long efforts to decrease inventory levels produced only marginal improvements. "We went to BiosGroup because they think very differently from the way we do," Kellam explains. "But most of the supply chain experts we went to thought very similarly to the way we do."

A LOOK AHEAD

An expert looks at the future of agent-based modeling of complex systems:

QuickLink 35614
www.computerworld.com

Computer modeling of supply chain operations, like that done by BiosGroup and P&G, today requires a combination of custom software development and consulting. But that could change as a result of a development agreement that P&G fostered between SAP and BiosGroup.

SAP has already demonstrated a prototype agent capability in its replenishment software. Agents predict the probability of stock-outs — based on current inventory, scheduled receipts and expected demand — and when that probability exceeds a certain threshold, a replenishment signal is triggered, according to Christian Knoll, vice president of global supply chain management at SAP.

SAP may introduce the prototype technology in its products, Knoll says, but for now it's helping a few key customers try it out on a project basis.

Navi Radju, an analyst at Forrester Research Inc., says the supply network that P&G operates is just the sort of environment that lends itself readily to agent-based modeling.

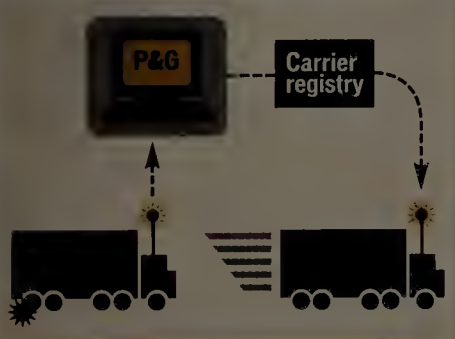
"It is exposed to a high degree of variability, involves multiple partners and requires a high degree of coordination and collaboration," he says. "When the whole process is not owned by a company, you need a bottom-up approach to controlling, managing and optimizing the integrated process."

Radju predicts that such bottom-up, agent-based optimization will increase in popularity — slowly. "P&G is a very forward-looking company, one willing to try new technology and learn from it," he says. "But the mainstream companies say, 'Let's not invest in unproven technologies.' "

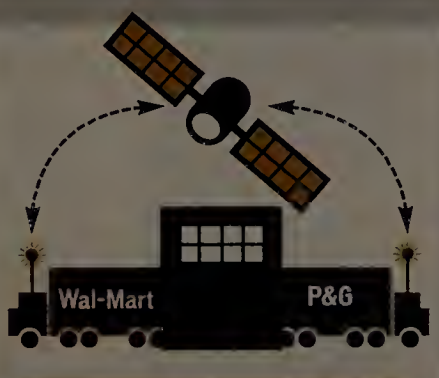
But Radju says big software companies — especially SAP and IBM — over the next two years will roll out agent-based supply chain optimization packages. Then, he says, the technology will shed its image as the intellectual domain of Ph.D. mathematicians.

Meanwhile, P&G says that by 2008, software agents will enable another leap forward in supply network management. While agents have so far been used just for modeling, they will increasingly be deployed in P&G's operational software, Kellam says (see diagram below).

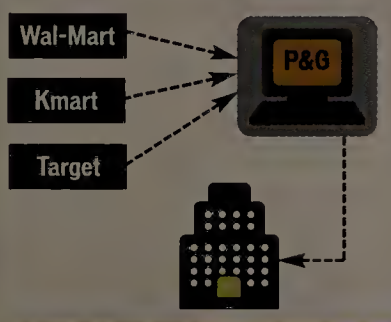
"What was once considered arcane and academic you are now beginning to see in real business applications," says George Danner, president of Industrial Science LLC, a modeling consultancy in Houston. "What we need is brave, progressive, scientifically minded CEOs to say, 'I want to understand the physics of my business.' "



5 When a tire blowout threatens to delay a shipment of Tide, P&G's agents detect it and prequalify an alternative trucker, who picks up the product and delivers it to Wal-Mart just in time.



6 Wal-Mart has replaced all of its costly warehouses with docking facilities it shares with suppliers. These docking/distribution facilities ship products like Tide to stores within hours of receiving them.



7 Software agents collect real-time sales data on each P&G product from multiple retail stores. They aggregate it and relay it to P&G's sales and marketing for trend analysis.

8 Wal-Mart's smart shelves alert a stocker to immediately retrieve Tide from the back room and place it on the shelf. Tide is restocked just seconds before the last box would have been taken off the shelf.

Intelligent Storage

Object-based storage carries the promise of smart arrays that manage their own data. By Lucas Mearian

IMAGINE A STORAGE DEVICE that uses its own horsepower to manage data, requires no manual settings for security and doesn't care if the client server speaks in blocks or files. That's the promise of object-based storage.

Object-based storage technologies shield the application or operating system from the low-level details of managing file storage. In one method, intelligence is added to the storage device in order to offload low-level storage management tasks traditionally handled by the operating system, such as mapping files to actual storage blocks on the disk drive and managing file attributes and other associated metadata.

Although widespread use of object-based storage is still some years away, the technology could result in storage systems that are more scalable, reliable, secure and manageable.

FUTURE WATCH

The T10 Technical Committee, which is part of the Washington-based InterNational Committee for Information Technology Standards and the Mountain View, Calif.-based Storage Networking Industry Association (SNIA), is working on a specification for object-based storage, called Object-Based Storage Devices (OSD). OSD turns files, directories and storage-related elements into objects that storage management software accesses using an extended SCSI-3 command set.

"But SCSI is just one component of what we're doing," says Michael Mesnier, a storage architect at Intel Corp. and co-chairman of the SNIA OSD Technical Work Group. "We're also looking at a more general-purpose definition of object-based storage which is irrespective of the transport, which means you can run it over SCSI, you could run it over Fibre Channel . . . over TCP/IP or whatever. To me, that's a much stronger impact."

By putting some of the intelligence for accessing objects into the storage array instead of the application server, networks could be infinitely scalable because servers would no longer have to eat up bandwidth searching for and accessing files or blocks of data.

"Just like you could plug a different hard drive into your PC, you could add another server to a storage system in the same way," says Scott A. Brandt, an assistant professor at the Storage Systems Research Center at the University of California, Santa Cruz (UCSC).

UCSC's Jack Baskin School of Engineering is designing a high-performance storage network, based on commodity hardware, that can store up to 2 petabytes of data based on the proposed OSD model.

"While you're still dealing with blocks, they're hidden from the file system," Brandt says. "As you add more storage, you're adding more smarts. What might have been prohibitive details added to a large system are now details handled by the storage device itself."

Moving the object metadata and attributes out of the file system also eliminates the file server as a scalability bottleneck, Brandt says.

Efficiency Gains

OSD makes for a much more efficient I/O configuration, says Mark Bradley, a technology strategist in Computer Associates International Inc.'s BrightStor unit. "You're no longer having to pass all these low-level read/write blocks back and forth between a file system and a device," he says.

For example, Bradley says, a file system could say, " 'I need foo.bar,' and foo.bar comes. Therefore, your communications over the interface, whether it's a network interface or not, becomes much less complicated and takes up less bandwidth, and in turn creates far fewer errors."

In April, EMC Corp. introduced what it calls content-addressed storage, based on a new storage server called Centera. Experts believe Centera is one of the first true object-based storage arrays.

Centera is an array that also handles all storage management issues by assigning each stored file a unique file object identifier that it passes back to the application. The application then requests that identifier to obtain the file, and the appliance takes care of the details of where and how the file is actually stored.

Mesnier emphasizes that the proposed standard is not a completely new model. "It's just taking [Network File System], in a sense, and applying it to what used to be considered dumb peripheral devices," he explains. "Imagine a world where two different file systems agree on data, then go directly to the same storage device and share the same data."

He says that the biggest benefits of object-based storage will come in the form of increased, more granular security and data-sharing capability.

"If I look at a block-based device today, an individual block cannot be protected," Mesnier says. "Once you get access to the entire device, you can read or write to any block you want to. You could format the device if you wanted to. With object-based storage, you can ascribe a security domain to each and every object." ◗

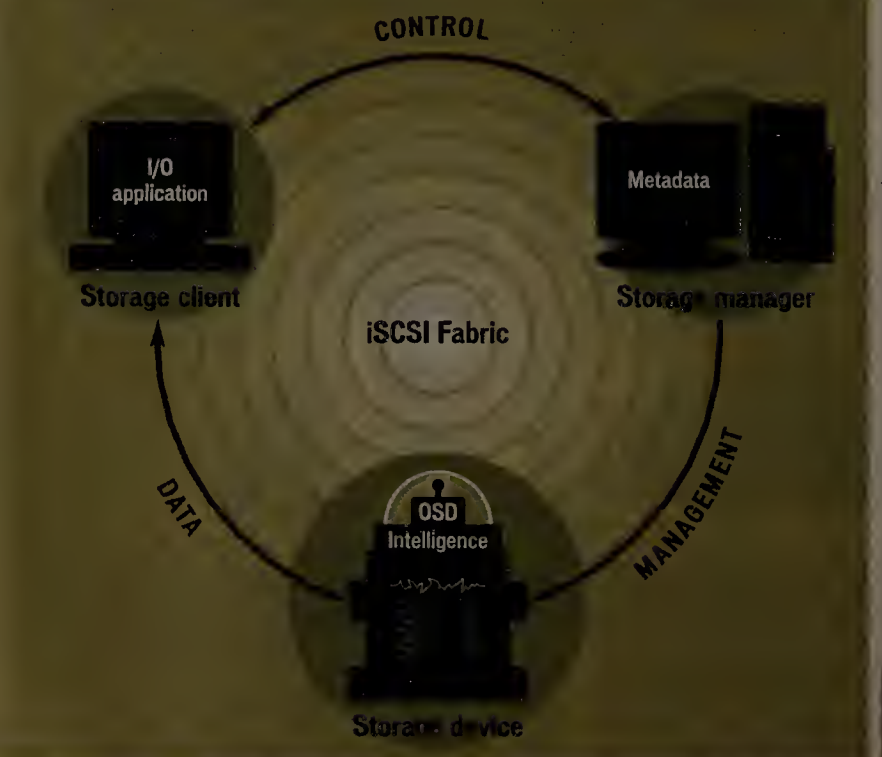
CLUSTER LUSTRE

Go online for a look at a Linux-based cluster file system based on objects:

QuickLink 35633
www.computerworld.com

OSD System Architecture

The proposed **Object-Based Storage Devices (OSD)** standard adds intelligence to the storage device in order to offload low-level storage management tasks traditionally handled by the operating system. In this example, OSD partitions the storage system around an iSCSI storage fabric. The storage manager still logically owns the storage devices, but now it can focus on maintaining the metadata that describes how a storage system maps to the object-based storage devices. The storage client consults the storage manager to learn of this metadata and then directly accesses the storage device.



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Security Problems Put Survey App on Sidelines

Design flaws leave a Web-based survey application open to compromise. By Mathias Thurman

MUCH OF MY normal routine has been put on hold while I attend to a legal matter that requires generating mirror images of about 30 employees' laptop hard drives. In response to a request from a federal agency, we're using Pasadena, Calif.-based Guidance Software Inc.'s EnCase Forensic Edition to obtain those images.

It takes about five hours to create each compressed 40GB drive image. Fortunately, the imaging process can run unattended. That has given me enough time to squeeze in a security review of a new Web survey application — a process that revealed several unpleasant surprises.

First, however, I had to get the disk images going. EnCase creates a boot floppy disk that write-protects the hard drive, then it lets you manually or automatically detect the destination storage device. I used the network port to connect to my forensics workstation via an Ethernet crossover cable and began acquiring the image for storage on a DVD-ROM.

Survey Insecurities

Our legal counsel requested a security assessment for a new Web-based customer survey tool. Members of the deployment team questioned why we needed to assess a survey tool at all. "It's not like we're collecting credit card data, personal information or storing source code," one staffer said.

He had a point. The application is being used so that our customers can complete surveys to assist us in providing a better experience for them. It doesn't collect any personal or financial data. But we might ask our customers to evaluate our performance and to specify deficiencies in the way we do business. We don't want such information falling into the hands of our competitors. Because of this issue, our general counsel determined that the data should be considered confidential.

SECURITY MANAGER'S JOURNAL

Not only are we worried about the compromise of the survey results, but this application will also have a Web server residing on the Internet-facing demilitarized zone (DMZ) segment of the network. The application itself uses a three-tier architecture consisting of a front-end Web server, a mid-tier application server and a back-end SQL database server.

If hackers were to compromise any of the infrastructures, they could access other information such as server configurations, user identifications and passwords, which can usually be cracked. They could also install packet-sniffing software to capture traffic and use it to gain access to other areas of our infrastructure.

> **Even on a switched network, it's still possible to capture traffic and compromise even encrypted protocols such as Secure Shell and HTTPS.**

For example, if a hacker ran a sniffer on a compromised Web server and the server administrator accessed another resource on the same network, the hacker might be able to obtain the administrator's logon credentials. Even on a switched network, it's still possible to capture traffic and compromise even encrypted protocols such as Secure Shell and HTTPS. If you don't believe this (and I didn't at first), read the Ettercap program specifications at *http://ettercap.sourceforge.net/*.

Exploiting Deficiencies

Assessing the security of the application is always more of a challenge than assessing the server and operating system on which the application is installed. The latter typically involves checking for open ports and vulnerable services. But an assessment should attempt to exploit deficiencies in the way an application was written or configured. I used several methods to try to gain access, including two common exploits: SQL injection and directory traversal.

SQL injection attacks occur when, for example, the application doesn't validate the data entered into forms. If a hacker enters SQL statements into a Web-based form and the application passes the inputted data to the database server, it's possible for the database server to actually execute the SQL statements it receives. If the database contains credit card numbers or other financial data, a properly crafted SQL query can retrieve it.

Directory traversal also works as a result of insufficient data validation. It's possible to issue commands from the address line of a Web browser that will let a hacker view any file on a Web server by traversing outside the normal directory of the application. For example, it might look like this: *http://www.webserver.com/../../../../../etc/shadow*.

In an unprotected machine, a hacker could use this Web address to view the shadow file, which contains the encrypted password for user accounts on most Unix systems. From there, it's a simple matter of copying the data into a text file and running a password-cracking tool against it. These vulnerabilities are normally easy to mitigate, but discovering them can be difficult. I use Sanctum Inc.'s AppScan for this purpose (see box).

I found the results of my application assessment quite alarming. There were several directory traversal and SQL injection vulnerabilities. In addition, the application stored account information in clear text. All these vulnerabilities will have to be mitigated before I give the application a clean bill of health.

Next, I plan to review all of our public-facing Web-based applications and review administrative access to our critical DMZ servers, which appear to have serious deficiencies.

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum:

QuickLink a1590

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**.

SECURITY LOG

USER REVIEW

AppScan 3.5

www.sanctuminc.com

AppScan 3.5 from Santa Clara, Calif.-based Sanctum is a big improvement over Version 3.0. The look and feel of the configuration screens are similar, but the reporting capabilities, false positive rate, vulnerability database and general ease of use have improved. The product includes new SQL, cookie-poisoning and Java vulnerability checks, as well as several new application-specific checks, including ones for Apache Tomcat and IIS 5.0.

There are several ways to use AppScan, ranging from a step-through to a fully automated scan. I used an automated scan, which required only the Web address of the application, form data and any account passwords. The resulting report was intuitive, listing a description of the check, the actual data used to assess the application, the resulting information and a severity level. I especially liked the tool's enumeration of the vulnerable link or file. AppScan is a comprehensive tool with great reporting features. Subscription pricing starts at $5,000.

– Mathias Thurman

Pkzip Adds Encryption

Pkware Inc. announced a new version of its popular Pkzip file-compression utility that adds 256-bit Advanced Encryption Standard encryption and integrates with Lotus Notes client software. Pkzip 6.0's encryption is based on Bedford, Mass.-based RSA Security Inc.'s BSafe cryptography and supports certificates or password-based encryption and authentication. Brown Deer, Wis.-based Pkware is also adding support for Unix, OS/400 and MVS in addition to Windows. Pkzip 6.0 ships this week. The Professional Edition is priced at $95 per user.

BRIEFS

3Com Enhances Web Caching Tools

3Com Corp. in Santa Clara, Calif., has announced content-scheduling and content-filtering upgrades to its SuperStack 3 Web caching product line. The controls are designed for large organizations that use Web browsers and need to control wide-area network bandwidth use and restrict the content that their employees can access, 3Com officials said.

The Webcache 1000 starts at $4,999, and the Webcache 3000 starts at $7,999, with the new version available now. Existing customers can obtain the upgrades by purchasing an update or support contract.

New Check Point VPN/Firewall Line

Redwood City, Calif.-based Check Point Software Technologies Ltd. last week announced a new, combined virtual private network (VPN) and firewall management product. The company's latest VPN-1/Firewall-VSX product family builds on its existing Provider-1 and SmartCenter management suites with new features such as secure routing between different virtual LAN segments, simplified network provisioning and enhanced attack prevention capabilities. Pricing ranges from $24,000 to $250,000.

Procom Updates NAS Filers

Procom Technology Inc. last week announced enhancements to the management interface of its NetForce family of network-attached storage (NAS) filers. The Irvine, Calif.-based company added an object-based administration interface that presents information to users in a hierarchical fashion. Users can manage various system objects under one view, including volumes, partitions and directories. The upgrade comes with Version 4.2 of Procom's operating system, now shipping with all Procom filers.

TOMMY PETERSON

Catch the Wireless Wave

JANUARY, our month of resolutions, is almost over. The saturated fats and simple carbs are creeping back into our diets, while the frequency of trips to the gym is trending downward. A half-day search for my notes for this column suggests to me that my resolve to get organized is falling a bit short of the mark. As a metaphor for the economic climate, this season of disappointment is a little too close for comfort. In it, only the tough and the focused keep their heads up high enough to see over the wall of the bunker most of us have hunkered down into.

And what those resilient optimists in corporate IT are looking for is opportunity — choices they can make even in hard times to improve the way their companies do business.

The dangers of the marketplace and the need to use resources wisely are clear. But being timid is not necessarily prudent. The bells, whistles and gee-whiz technologies have been put in mothballs in most corporate IT departments, but that decision can come at a price. Some very slick technologies that seemed like extras a short time ago will soon be essential to the way companies work.

One of those is wireless networking. Many of us, especially in the U.S., have been carping about the slow adoption of wireless for so long that we've failed to recognize the wireless wave breaking over corporate IT. My *Computerworld* colleague Mark Hall predicted in a Dec. 16 column [QuickLink 34561] that by 2012, every new digital device in the enterprise will be wirelessly connected. Absolutely right, but awfully conservative.

"Wireless is a reality in the enterprise, in Europe at least — and it's coming to be so in the States," Amir Lehr told me last week. Lehr is vice president of PowerDsine, an Israeli company that he says is riding the wave of wireless adoption with its Power Over Ethernet technology.

If your existing infrastructure is, well, not quite up to date and you've been listening to the unfulfilled predictions about wireless for several years, you might think that it'll be a while before your company considers the move. Maybe so, but your competitors might not wait for you.

There are two main forces at work moving corporate IT toward wireless. The first is the pull of the technology itself. The 802.11b standard is chugging toward maturity, while its siblings — a, g and the coming high-performance 802.15.3, to name a few — represent the first of many more protocols that will eventually provide the glue to bind wireless networks together.

The other force is the push from end users who have gotten used to checking their AOL and Hotmail accounts from the corner coffee shop. Wireless is no longer a novelty to them; it's a promise of freedom, connectivity and uninterrupted productivity. And don't forget that the next generation of IT professionals will have spent their college careers thinking that access to a wireless LAN is as normal as access to the library.

OK, there's still a way to go. Clearly, if the uses of the technology are going to get more sophisticated than connecting tradesmen to inventory, scheduling and dispatching systems, more progress must be made on the interoperability front. But as painful and halting as that progress may be, the struggle is familiar — we saw it with other significant technologies as they matured and gained acceptance. And the payoff for both users and vendors is sufficient to ensure that standards will prevail.

Questions about security, worrisome in relation to any technology used in a corporation, are somehow harder to put to rest about wireless.

Wireless security is very much like security in the wired world — the right technology is important, but policy and practice are more so. The keys are rigorous authentication of users and devices by the host system, and improved encryption to protect data while it's in transit. The 802.11 Wired Equivalent Privacy standard has proved to be woefully inadequate, but the coming 802.11i protocol will include the government-approved Advanced Encryption Standard. Security will always be a race, but the good guys will soon have the tools to keep ahead of the hackers and crackers.

So as you turn the Groundhog Day corner toward spring, take a peek over the bunker wall and think about the future of your company's IT infrastructure. The wireless wave is coming — now's the time to catch it.

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To me, success is a 35 minute lunch.
At a restaurant, not my desk.
Means I'm not wasting time doing the
same data management task again and
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Big Recruiters on Campus? Not This Year
There's plenty of experienced talent among the ranks of the unemployed. Read our Campus Connection, starting on **page 36.**

Handling the Hard Case
Motivating most IT people is easy, but what do you do with those who just don't buy in? **Page 39**

Manage Suppliers for Project Success
Research shows that few large IT projects meet their full objectives. Columnist Bart Perkins offers some tips on how to complete your projects within budget and with all the features. **Page 40**

Store e-mails properly, or you could face stiff fines. BY MARY K. PRATT

Tens of thousands of e-mails pass through the offices of Friedman, Billings, Ramsey Group Inc. every month.

The Arlington, Va.-based financial services holding firm had stored e-mails on tape, but CIO Jerry Carlsen recently was given the task of upgrading that storage system to one that has the ability to index and archive e-mails.

So Carlsen dedicated 60 hours of his IT staff's time each week for four months to work with SJ Technologies LLC, a global systems integrator in Phoenix, to develop the new e-mail storage system. The system required six new servers and uses EmailXtender software from Legato Systems Inc. Carlsen is still assessing what the best storage media will be.

With new hardware and software in place, Friedman, Billings, Ramsey has a system that's capable of storing and indexing e-mails from 450 employees at 16 locations worldwide. Now if employees or regulators want to retrieve an e-mail, they can use the date,

GINA TRIPLETT

SAVE THAT MAIL

SAVE THAT MAIL

Continued from page 33

user, topic or other identifiers to find it.

Such attention to e-mail might seem excessive, but executives in industries across the board are realizing that properly storing messages has become serious business as courts, government officials and industry regulators increasingly order expensive searches and issue stiff fines for lost or poorly stored e-mails.

Consider this: Securities regulators recently fined five Wall Street firms — Goldman Sachs & Co., Salomon Smith Barney Inc., Morgan Stanley, Deutsche Bank Securities Inc. and Piper Jaffray Inc. — a total of $8.25 million for not keeping certain e-mails for the required period of time [QuickLink 34912]. Regulators said the five firms violated securities rules by failing "to preserve for three years, and/or to preserve in an accessible place for two years" such office memoranda as e-mails related to their exchange, brokerage or dealer businesses.

Companies must follow legal and regulatory requirements that dictate what records to keep and for how long. These rules generally don't speak to the media on which those records originated; instead, they usually apply to all records, whether they're papers, e-mails or electronic attachments.

Brokerages often have the tightest regulations when it comes to archiving records, experts say. For example, the Securities and Exchange Commission requires that they keep securities transactions for seven years. But brokerages aren't the only ones working under record-keeping requirements. Lenders must keep Home Mortgage Disclosure Applications — whether on paper or in e-mail — for three years. Human resources departments must keep personnel records, including e-mailed applications and responses to job ads, for one year from the date of personnel action.

"It's a technology nightmare, and it's going to get worse as the years go on and the e-mails build up," says Mark E. Schreiber, a partner in the labor and employment department at Boston law firm Palmer & Dodge LLP.

Companies that don't keep required documents, including e-mails, could face more than fines, says Mickey C. Andrie, a sales manager at SJ Technologies. Under the SEC regulation known as 17a-4, financial services firms could be hit with censure or with license suspension or revocation as well.

Firms that fail to archive e-mails so they're easily and quickly retrievable also face the high cost of trying to recover one or two messages demanded by a regulator or a judge, for example.

Winston Krone, managing director in the San Francisco office of SafirRosetti, a security consulting, investigation and intelligence firm, has worked on cases where he had to sort through 150GB of information to find required e-mails. A midsize company with a couple of venues could spend up to $500,000 combing through corporate e-mails to find one or two messages, he says.

Certainly, companies had to cope with records retention for decades prior to e-mail, and many employed compliance officers or lawyers to oversee records management. But executives have had less experience in dealing with archiving e-mail, experts say, and that has led to some of the confusion on the issue today.

"E-mail exploded on the scene with no traditional solutions," says Deborah Baron, director of product marketing at Zantaz Inc. in Pleasanton, Calif. Zantaz provides digital archiving and records management tools as well as electronic discovery to meet the regulatory, audit and legal compliance needs of financial services firms, energy companies and government agencies.

And with the SEC getting tough on e-mail archiving after finding incriminating e-mails during recent scandals like the one that took down Enron Corp., companies are now paying closer attention to the topic.

In light of that, experts agree that technology personnel shouldn't be the only ones devising e-mail storage policy. Companies should have legal counsel, regulatory managers, human resource executives and IT personnel formulate a strategic plan for storing, archiving and managing the data.

They should start by defining their goals, says Laura Harrison, project manager for SJ Technologies' messaging business division. SJ has partnered with Mountain View, Calif.-based Legato, a provider of online data storage management and data access products, and with Oracle Corp., to design and implement enterprisewide content management systems as well as customized storage applications.

Companies must decide whether to keep all e-mails or only specific ones. Most companies, after doing a risk analysis, decide to keep them all, even those that just say "Let's meet for lunch," rather than risk deleting a crucial e-mail that might later be required, Harrison says.

Next, IT staffs should examine the number of employees and the volume and size of the average e-mail, experts say. They should also consider what needs to be kept near-line or online, how often stored messages will be accessed, and who will access them. In general, simply adding more disk capacity to existing backup storage systems won't be sufficient to meet legal and regulatory requirements, says Baron.

The Security Angle

Baron advises companies to also consider security when devising e-mail storage systems. "E-mails stored on backup tape leave room for tampering. That's why real-time archiving is critical to meet legal and regulatory requirements," she says.

Consider U.S. Food and Drug Administration regulation 21 CFR Part 11, which establishes the criteria under which electronic records and signatures are considered equivalent to paper records and handwritten signatures. It requires in part that access to electronic records be restricted to only authorized personnel and that companies must be able to retrieve stored data for the same length of time as equivalent paper records, which can mean up to 10 years or longer.

"When companies are not fully compliant with 21 CFR Part 11, the FDA makes a case-by-case evaluation as to whether or not to pursue regulatory actions. Noncompliance might lead to regulatory exposure, costly rework and downtime, compromised product quality, and even fines, prison sentences and sanctions," according to the Web site of Princeton Softech Inc., a Princeton, N.J., company focused on data management products and services.

Experts say e-mail storage usually involves investing in new hardware, such as network-attached storage or storage-area networks; software to manage it; networking equipment such as routers, switches and firewalls; and a database administrator.

A company would pay approximately $100,000 for hardware and another $100,000 for software for a 5TB protected configuration, according to estimates provided by EMC Corp. in Hopkinton, Mass.

Companies can expect a total e-mail storage system to cost six to eight times as much as the base storage hardware (for example, a RAID storage system or optical disks) on an ongoing basis, Baron adds. So if a company spends $1,000 per month for storage hardware, it should budget $6,000 to $8,000 per month to manage the system.

But Christopher Laping, vice president and CIO at Denver-based GMAC Commercial Holding Capital Corp., says costs are often secondary to meeting the evolving regulatory and legal requirements for e-mail storage.

As SJ Technologies President and CEO Ian Singer says, "It's more an issue of compliance." ◗

Archive This

Various federal and industry regulations require that companies store records for minimum lengths of time:

- **Securities transactions and related records: Seven years**
- **Mortgage applications and lending documents: Three years**
- **Personnel records, including e-mail applications: One year**

Calculating Requirements

the total number of employees and the volume and size of the average e-mail.

a risk analysis to decide which e-mails to keep.

how often stored e-mails will be accessed and by whom.

Pratt is a freelance writer in Waltham, Mass. Contact her at markmary@mindspring.com.

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Home-Sch IT Talent

FedEx and other forward-thinking companies are teaming up with neighboring universities to teach the IT skills their businesses require.

By Mary Brandel

MEMPHIS HAS LONG SERVED as home base to technology innovator and shipping giant FedEx Corp. This fall, the city hopes to become a hotbed of leading-edge technology research and learning, when the four-story, $23 million FedEx Technology Institute opens at the University of Memphis.

The vision is for the center, which was pioneered and partially funded by FedEx, to become "the digital epicenter of the Mid-South," says Jim Phillips, chairman and executive director of the institute. On-campus students, professors and scientists, as well as researchers and business executives inside and outside of FedEx, will gain access to "mind-blowing technologies with unbelievable applications in an infinite number of areas," he says.

CAMPUS CONNECTION

A very distinct benefit for FedEx is that the institute will increase and sharpen the skills of the local IT talent pool, and it will produce graduates right in Memphis who have training and experience that jibe with

GREG MABLY

nooling

FedEx's needs. But Phillips is quick to point out that the new center isn't just an adjunct FedEx training facility, nor does FedEx control its research efforts.

However, he says, the institute will absolutely attract more students interested in IT to the University of Memphis, which will help FedEx and other companies fulfill their IT needs. The hope is that the training might even attract new business to Memphis. "Absolutely, I can see some really interesting and relevant centers of technology inside the FedEx Institute that relate to FedEx missions," Phillips says.

At the institute's Center for Next Generation Transportation, for instance, "we're working to create an invisible plasma on the wing surfaces of airplanes to drive fuel costs down by as much as half," Phillips says. "And in trucking, we're working on a unit that plugs into the truck cab that will help save billions on diesel fuel."

Beneficial Partnerships

In this climate of layoffs and few new jobs, particularly at the entry level, many large employers are opting out of campus recruiting this year (see story, page 38). But a few forward-thinking companies are seeing the wisdom of working with area universities and community colleges to turn their regions into hubs for IT activity. The benefits are plentiful, these companies say: The talent, in effect, comes to you, lowering recruiting costs; you can home-grow talent in lifelong local residents, who tend to be long-term employees; and you can influence school curricula to meet your IT needs.

"The majority of companies are not doing what they need to do to develop skills proactively," says Maria Schafer, an analyst at Meta Group Inc. "When things do pick up, they'll be scrambling to find people." She recommends that companies maintain relationships with universities or training institutes to ensure that the basic skills they need are being taught. They can then, in turn, expand upon them.

Retaining IT employees and creating a larger local talent pool were goals of Missouri's state government in the late 1990s, says Jan Grecian, a technology specialist for the state in Jefferson City. "We employ roughly 1,400 IT professionals, and there are other businesses here in town," she says. "We were doing a lot of stealing from one another." Salaries were also a problem: People could easily move to the larger cities of St. Louis or Kansas City to double their money.

So the state, local IT employers, area universities and colleges, and the Chamber of Commerce formed a coalition and developed a mission to get more local people into the IT field. The group, which meets once a month, targeted high school students to raise their awareness of local IT education and job opportunities. The coalition also focuses on workers in other careers who want to retool for the IT field. Coalition members also joined the advisory boards of local higher education centers.

"All the schools have been good at rising to the challenge and tweaking their curriculum" to meet employers' needs, Grecian says. For instance, in 1997, many of the schools were looking at dropping Cobol, but the coalition urged them not to because many IT shops were still heavily invested in that technology and hadn't gone through Y2k remediation yet.

A top-notch networking degree program was added as a direct result of the coalition needing more networking talent, Grecian says, and more recently, some schools have agreed to consider adding Microsoft .Net to their curricula. Additionally, a college about an hour away installed a satellite school in Jefferson City, offering computer science, networking and Web development programs.

All of this has resulted in a greater number of qualified IT candidates. "The numbers have increased substantially in the local schools where they've added to the IT curriculum," Grecian says.

'Two-Way Street'

Even big-name companies in large cities see the need to increase IT noise levels and influence the IT curricula at area schools. "The more we can do to make the IT curriculum enticing to bring others in and keep the kids who live here, the better off we are," says Don Haile, president of Fidelity Investment Systems Co., the IT arm of Fidelity Investments in Boston. "When we bring in kids from local universities, there's a greater degree of loyalty."

Fidelity has worked with Babson College in Wellesley, Mass., on its human interface design curriculum and has served on task forces and advisory boards at the University of Massachusetts, Bentley College and MIT.

"I always get asked, 'What should we be teaching?' We'll be clear that we want students to understand Java and XML and that they need to get on board with .Net," Haile says. "They know this, but we're just confirming their suspicions. It's a two-way street — I'm looking for new blood, and they're interested in seeing what we think and what we're doing."

Everyone agrees that no college program can be expected to produce students with the leading-edge skills that are immediately valuable to an employer. But, Grecian points out, if you can encourage area residents to follow the IT route at local schools that are teaching the curriculum that matters most to nearby employers, "they come out with the concepts down and a desire to learn, and they'll do continuous training at their place of employment."

Even in the current economy, Grecian says, the coalition's work is well worth the effort. "We haven't been as active lately" because of the economy, she says. "But the work isn't going away. It's just a matter of time, and we'll see this cycle around again."

Brandel is a freelance writer in Newton, Mass. Contact her at brandels@attbi.com.

Not Your Typical Schoolhouse

Scheduled for completion this fall, the four-floor, 93,000-sq.-ft. FedEx Technology Institute has three key goals:

- To produce a digitally savvy workforce and student pool.
- To conduct world-class interdisciplinary research.
- To be an evolving, dynamic resource through which local businesses can come together to find solutions to real-world problems.

With its extensive use of wireless technologies and high-speed Internet2 backbone, the new facility "is not your typical red-brick schoolhouse," says Jim Phillips, executive director of the institute. Its 200-seat "Forum," for instance, has technology that professors can use to give quizzes with immediate scoring feedback or conduct instant polls. A presentation theater has a digital screen, spatially dynamic sound control and sensory body suits that could, for example, be used to help students learn the nuances of orchestral conducting. And its "Cafe Wired" offers wired and wireless Internet connections.

The institute will give businesses a place to work together on projects and solve business problems, and it will offer campus scientists more space for research and better opportunities for interactions with off-campus researchers.

It is FedEx's belief that the institute will create a symbiotic relationship between the University of Memphis and Memphis-area businesses and start-ups that the area just didn't have before, says Phillips.

GREG MABLY

Big Recruiters On Campus? Not This Year

There's plenty of experienced talent among the ranks of the unemployed.

By Barbara DePompa

FOR A SECOND STRAIGHT YEAR, formal on-campus recruiting of IT graduates is way down, thanks in part to the slow economy, an abundance of unemployed IT talent and continued corporate belt-tightening.

Recruiters and IT executives from just about everywhere but Microsoft Corp. say there are simply too many experienced IT professionals available from businesses that have laid off workers in the past two years.

Moreover, few new jobs are being created. In a December survey of 150 CEOs representing companies employing a total of 10 million people, 80% of the respondents said they would hold the line or reduce capital spending in 2003. "This will most certainly stunt job creation," says John Challenger, CEO of Challenger, Gray and Christmas Inc., which conducted the survey.

The IT talent glut makes it unnecessary for companies to go fishing on college campuses for more IT personnel. "It's simply crazy to recruit workers without job experience when there are so many talented IT professionals available," says Rob Collins, CIO at business intelligence software provider Cognos Inc. in Ottawa.

Downturn Predicted

A survey released in late December by the Bethlehem, Pa.-based National Association of Colleges and Employers (NACE), which tracks college graduates for recruiters and human resources professionals, confirms the bleak job outlook for all college graduates. In August, NACE projected that employers would hire 3.6% fewer college graduates in 2002-03 than they hired in 2001-02. In December, 60% of 312 employers responding to NACE's latest survey reconfirmed their intentions to hire fewer new college graduates, and the rest said they plan additional cuts in college-grad hiring.

Many businesses have no budget or mandate to hire on college campuses now, says Maria Schaffer, an analyst at Meta Group Inc. in Stamford, Conn. Meta will publish the results of its annual survey of Fortune 1,000 CIOs later this quarter. But Schaffer says that according to the raw survey data, fewer than 2% of CIOs will recruit on campus this year, down from 6% in 2001 and way down from a high of 18% of companies in 2000. "Many companies may end up sending a human resources person for a day to interview top candidates at leading colleges, but most aren't making immediate job offers," she says.

CAMPUS CONNECTION

In fact, most companies are counting on most of their competitors to forgo campus recruiting this year, says Bill Coleman, senior vice president of compensation at Salary.com Inc., a human capital management software and research firm. "That way every company will be on the same footing when the situation improves and jobs become available," he says.

But there's a significant exception. Microsoft, which is expanding its campus recruiting this year, views the pullout by competitors as shortsighted. "We are committed to college recruiting," says Kristin Roby, Microsoft's senior director of college and MBA recruiting. "Companies that turn away now risk losing the relationships they will need when the economy fully recovers," she says.

Over the past few years, Microsoft has recruited about 600 computer science students per year for full-time positions. This year, it will increase that to 800 new hires, though Roby admits the additional 200 personnel hired won't come from the computer science field. Instead, she says, Microsoft will hire more college grads from marketing, finance and human resources programs [QuickLink 34428]. It attributes its hiring needs to overall continued growth. Currently, Microsoft has more than 53,000 employees and recruits from more than 250 schools.

Some experts say Microsoft is smart to buck the no-campus-recruiting trend. "Right now, the last thing I want is to be in the same boat as my competition — I want to smash and kill them. And that's why it's smart to build strong college campus relations now," says retired Elf Atochem CIO Bob Rubin, who is now president of Valley Management Consultants in Huntington Valley, Pa.

"When the economy turns around, businesses will want to be back on campus in force, and that's difficult to do if you've severed your ties," says Marilyn Mackes, executive director of NACE.

It's also a good idea to keep internship programs up and running, because they are far less expensive than full-blown campus recruiting initiatives, says Mackes. Cognos' Collins says the company will continue to hire college grads using this method. If their interns work well within the company's corporate culture, they are often offered jobs after they graduate.

Recruiters and analysts emphasize that a small recruiting effort is better than none and will likely reap rewards in a few short years. They say that barring a major terrorist strike or a long, drawn-out war, they're hopeful that the current jobless recovery will start to improve and create a need for more IT personnel in the second half of the year. ◗

DePompa is a freelance writer and editor in Germantown, Md. Contact her at bdepompa@comcast.net.

Few Jobs, Plenty Of Internships

- **40%** of employers will continue current internship programs.
- **17.5%** will bring in more interns than last year.
- **8%** expect to cut back on internships.
- **9%** of companies have no formal internship program.

SOURCE: NATIONAL ASSOCIATION OF COLLEGES AND EMPLOYERS, BETHLEHEM, PA., DECEMBER 2002

HARD TIMES FOR IT WORKERS

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Handling the Hard Case

Motivating most IT people is easy, but what do you do with those who just don't buy in?

Motivating problem employees is a perennial challenge for IT managers. In this month's Harvard Business Review, **Nigel Nicholson**, *the director of the Centre for Organisational Research at London Business School, argues that trying to motivate hard cases may be the wrong approach. He talked with Kathleen Melymuka about a method designed to help them motivate themselves.*

Why is trying to motivate a problem IT person the wrong approach? You have to help people try to find their own ways to motivate themselves. I'm talking about intrinsic motivation — about hearts and minds. Your job is more to clear away the undergrowth.

Give me an example of how not to motivate a problem person in IT. Telling someone how interesting you find these problems they're working on or how lucky they are to have such an interesting job when you know that they don't find it interesting.

How do you begin a different approach? First of all, it's about finding out where the people are misaligned.

If you listen, they will tell you. Often, they're misaligned with the environment. If, for example, they're on the help desk and they really don't like dealing with people, take them off the help desk.

A typical problem is trying to motivate a subordinate who thinks he's better technically than the manager. That gets in the way, but it needn't.

What do you do about that? There's nothing wrong with managing someone more skilled than you. It happens all the time. You say, "I know you have more skills than I have. What can we do to help each other make this operation a success for both of us?" It's a partnership problem.

This sounds fairly simple. But it can be difficult because often the person is someone you really haven't got a lot of sympathy or empathy with. You don't like the person or perhaps you've had a row with him. We're not really motivated to understand people with whom we've had some bad experience. Often we're more concerned with being right and their being wrong.

Once you understand the person better, what do you do next? Instead of saying your goal is to motivate this person, you may have to start with something simpler — perhaps to open up a channel of communication so you can begin to work together. You can worry about motivation later, but if you haven't got a channel open, you can't work with them.

You say the manager also needs to re-evaluate himself and the work context. Tell me about that. You may get off on the wrong foot with a person over a bad exchange, and you take that as a sign he's a bad person, and it starts to spiral. But perhaps you haven't been handling him right, and you're bringing out the worst in him. You may need to change the way you communicate with him.

Where does this all lead? You stage a formal encounter. You say, "We have a problem and we need to figure out what it is, and if we see the world differently, that is part of the problem. We need to get the same view." It amounts to your seeing the world from his point of view, and that helps you to help him center.

Then what? In the course of this encounter, you may discover things you didn't know. You may even have to call a time-out for more reframing of your goals. Or this may take you on a collision course to the point where the person is dismissed. But at least you'll know why you're doing it.

All this seems enormously time-consuming. After all, the IT manager has a department to run. These issues are not separate from your job; this is your job.

In the end, you will gain time because you will reduce problems. You will discover that you've been treading water, and now you'll move ahead.

But what if you're just coddling a person who really ought to be fired? You need to decide whether there's a recovery path or not. If the answer is no, then don't even get into this. I'm trying to avoid the danger that comes when you try to settle a performance problem and it escalates to the point where you do have to fire someone, when you could have solved the problem.

Good IT people are enormously valuable. You can't afford to toss them over the wall when you have a problem.

You say there are benefits to this approach that go beyond the manager and the problem employee. What are they? If you help a disruptive person find some new way, your reputation will become enhanced, the culture will improve, and you will forestall other problems. People will start to regain confidence in the way things are run and see that you believe in working for constructive solutions. That has a tremendous impact, and if you do it right, you'll be loved for it. ◗

Melymuka is a Computerworld *contributing writer. Contact her at kmelymuka@earthlink.net.*

This is the latest in a series of monthly discussions with authors of articles in the Harvard Business Review on topics of interest to IT managers.

Reaching Common Ground

DON'T have the same fruitless conversations over and over.

DO discard your assumptions about the person and start fresh.

DON'T try to convince the person of the reasonableness of your position.

DO find what drives that person and clear away the obstacles.

DON'T miss the other person's viewpoint.

DO ask yourself how the person would describe his challenging behaviors.

DON'T ignore how the person perceives you. You'll have to work with his reality as well as your own.

> **"If you help a disruptive person find some new way, your reputation will become enhanced, the culture will improve, and you will forestall other problems.**
>
> **NIGEL NICHOLSON**, DIRECTOR, CENTRE FOR ORGANISATIONAL RESEARCH, LONDON BUSINESS SCHOOL

SINGING FOR THEMSELVES

How to tone down IT prima donnas to enhance staff harmony and productivity:

QuickLink 32735
www.computerworld.com

BRIEFS

Health Care, Fed to Lead IT Spending

The federal government and the health care industry are expected to show the strongest growth in IT spending this year, according to a vertical-market IT spending forecast issued last week by San Jose-based Dataquest Inc. State and local governments' IT spending will shrink because of budget deficits.

The largest global vertical markets – financial services, manufacturing, government and communications – are expected to make up 67% of worldwide business IT spending this year.

Groups Oppose Fed Copy-Control Rules

Two major industry groups, the Business Software Alliance and the Computer Systems Policy Project, which represents large hardware makers, struck a pact this month with the Recording Industry Association of America, a top music industry trade group, to oppose federally mandated copy-protection technologies in software and hardware. They aren't opposed to technologies introduced voluntarily.

Top Outsourcing Deals for 2002

ABN AMRO's $1.3 billion contract with Electronic Data Systems Corp., for IT services and applications development.

BANK OF AMERICA's $4.5 billion managed network services deal with EDS.

BOMBARDIER TRANSPORTATION's $1.11 billion contract with Computer Sciences Corp. for IT services.

J.P. MORGAN CHASE's $5 billion deal with IBM for IT services and data processing technology infrastructure

CANADIAN IMPERIAL BANK OF COMMERCE's $2 billion pact with Hewlett-Packard for IT services and infrastructure.

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BART PERKINS

Manage Suppliers For Project Success

MOST ORGANIZATIONS begin a large system development effort by creating a business case, identifying a program sponsor and developing a work plan. These are widely recognized as critical foundations for success, and without them, your program is likely headed for failure.

However, even with a good foundation, research shows that few large projects meet their full objectives. About $75 billion is spent yearly on failed IT projects, and poor management and methodology are the chief culprits, according to Gartner. And in 2002, more than half of 134 large multinational companies surveyed by KPMG experienced a failed IT project during the year. The average cost of each failure was about $8 million. While no company would dream of throwing dollars away, failed projects essentially have the same result.

BART PERKINS, a former CIO at Tricon Global Restaurants Inc. and Yum Brands Co., is managing partner at Leverage Partners LLC, which helps CIOs manage their suppliers. Contact him at BartPerkins@LeveragePartners.com.

Many organizations severely underestimate another critical piece of the project foundation: the enormous impact their suppliers will have on a project's outcome. Projects frequently fail because suppliers are undermanaged, undercoordinated and, all too often, ignored. The average Fortune 500 company may have 15 to 20 suppliers directly involved in each of its major system development projects. These suppliers include providers of hardware, software packages, middleware or systems integration services. Selecting the right suppliers and managing them effectively is crucial to program success. In addition to performing traditional supplier management activities, be sure to do the following:

■ **Guard your infrastructure.** Large projects often introduce new technologies into your organization. When you commit to an application package, you may be unknowingly committing to additional software. An Oracle-based company, for example, may choose a software package but then discover that it performs better on a SQL Server database than on an Oracle database. Furthermore, beware that many suppliers will want to change your architecture to better incorporate their technology. Make sure that all hardware and software required by your suppliers meets your architectural specifications.

■ **Identify and understand your suppliers.** Carefully assess their corporate direction, their cost structure (how they make money), and the exact services they will provide. If possible, understand their compensation program and get your supplier to specify objectives for its staff that are aligned with the success of your own program.

■ **Bring key suppliers on board as soon as possible.** Make sure they're committed to the total program and not just to their own deliverables. Include them in the initial project planning phases, and get their buy-in for your work plan and schedule. Include key suppliers in most of the regular program progress meetings.

■ **Create effective project performance measurements.** Suppliers can meet their deliverables and still adversely affect overall program success by refusing to share enough information or by offering only minimal cooperation to other suppliers involved in the project. In the contract (in addition to specific deliverables), focus some supplier performance measures on overall program success (just as your employees' bonuses are often based on a combination of their individual objectives and corporate success).

■ **Address the cultural resistance.** Be prepared to deal with pushback from your own people about sharing information openly with a supplier, as well as pushback from suppliers about sharing their information with other suppliers on the project. Define the level of openness required at the beginning of the program, and get supplier buy-in.

■ **Re-examine the total cost of ownership.** The cost of a software package is frequently only 10% to 20% of the total development cost. Over the life of the program, total development costs are a small percentage of total operating and maintenance costs. Remember to include the cost of all suppliers involved in the program.

An alarming percentage of large systems development projects fail. Addressing these supplier issues will help minimize common pitfalls. Make your suppliers an explicit part of your systems delivery process to leverage your development dollars and increase your likelihood of program success.

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Systems Engineer. Job opportunity in Brunswick, Georgia. Responsibilities include: utilize knowledge of Microsoft operations and networking systems to design, install, administer, maintain, and upgrade computer applications, networks and systems on three locations connected over WAN link. Must have a Bachelor's degree or foreign equivalent in Computer Science or Electrical Engineering and two years of experience as a Systems Engineer. Must be Microsoft Certified Systems Engineer, and be proficient in Microsoft Exchange 5.5 and 2000 administration, Microsoft Windows NT 4.0 and 2000 based network administration, Microsoft SQL Server 2000 database administration, Microsoft System Management Server 2.0, Windows Terminal Server, and IIS. Experience in maintaining GENTRAN E-Commerce Systems in Windows 2000 is required. If qualified, submit resume in duplicate, salary history and salary requirements to the address below. Incomplete submittals will not be considered.

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Suite 500
Atlanta, GA 30338

Programmers, Jr. Programmers, Software Engineers & DBAs Design, develop, test and implement specialized software apps in (a) Oracle Financials and Manufacturing 11i and related tools, Erwin, Cognos Suite, Business Objects and MF Cobol; (b) SQL DBA, Unix Admin., VB, Sybase, Cobol, C, Cold Fusion and related technologies; (c) J2EE and related technologies, Rational ClearCase, CORBA, MQSeries and related tools; (d) BDF, JPROBE, Test Factory, Requisite Pro, CORBA, Patrol DB, LDAP Server and Silk Pilot; (e) EAZYTRIEVE+, Xpedio Server, SQL Backtrack, PatrolDB, NetIQ, Infopac, Netview and Gauntlet Firewall; (f) PeopleSoft HRMS (HR, Payroll and Benefits Administration) Application Engine, SQR, Cobol, DB2, CICS, nVision, Crystal Reports and related tools; (g) Java and related tools, CORBA, Sybase, Swing and Rational Tools (h) Oracle Database Admin. in Oracle 11i, Oracle Enterprise Manager, Solaris AIX, VB, C++, SQL*Plus and related tools; (i) Cold Fusion and related tools, ASP, XML, DHTML, Crystal Reports, Java, VB, DCOM, MS SQL and Oracle 8i; (j) Oracle Financials and PeopleSoft, Tuxedo, Developer/Designer 2000 and related tools; (k) Hyperion Essbase Apps. and related tools; (l) Oracle, Peoplesoft, ASP, Java and related tools, SQA Robot, Mercury Test Director and Silk; (m) Clarify and related technologies; (n) JDK, ASP, CORBA, Oracle, SQL Server, Linux, VB and HTML (o) SAS and related packages, Java, Business objects and Oracle. US Workers only. Consulting positions requiring travel. Prevailing wage/benefits. Send resume to HR, SSG, 2005 Concord Pike, Suite 209, Wilmington, DE 19803, identifying interested position(s). No Phone calls please.

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GIS Application Developer: Provide support for GIS work as part of GeoDecisions team, assist to plan, analyze and develop GIS application; Assist in design and management of database for GIS, develop data modeling diagrams and prepare flow charts and block diagrams. Involves using HTML, Java/ JavaScript, ASP, Oracle, Vis Basic, SQL. Requires exposure to GIS and a Master's Degree in Computer Science or related field.

Programmer Analyst on GIS team: Analyze, evaluate and modify systems and programs for GIS data processing. Work with tools including web, HTML/DHTML, ASP, JavaScript, GeoMedia, GeoMedia WebMap, Visual Basic, VS.NET. You must have 2 yrs. of relevant exp. and a Bachelor's Degree in Computer Science or related field.

Send resume with cover letter indicating position preference and reference code MW to: Gannett Fleming, Inc., 207 Senate Ave, Camp Hill, PA 17011. EOE M/F/D/V

Software Development Engineer to work under supervision to design and develop risk assessment software, product enhancements, and defect resolutions utilizing object-oriented languages including C++ and Java, ODBC, OLE and Sybase Adaptive Server in an NT environment. Requires a BS in Electronic Engineering & 2 yrs. exp. Oakland, CA job location. Refer to job Z-OKL-1.

Software Test Engineer to work under supervision to conduct performance tests on risk assessment software using object oriented technologies including C++ and Apache Ant. Apply knowledge of statistical and probability mathematics and programming to test and/or modify risk assessment algorithms. Requires a BS in Computer Science & 2 yrs exp. Oakland, CA job location. Refer to job HC-QAE.

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Simulation Analyst. Develop workforce staffing models for Request For Proposal support in new business development. Design and develop call center simulation models using ARENA, SIMAN, and CallSIM software to replicate client network. Database analysis of call center metrics to improve decision-making process. Must have Bachelor's degree in Engineering, Mathematics, Statistics or equivalent, one year experience, and knowledge of ARENA v 5.0 or higher; CallSIM and SIMAN in Windows environment; C++ programming; VB 5.0 or higher; and TCS/IEX/ Blue Pumpkin. Send resume with cover letter to Cindy Corkery, APAC Customer Services Inc., 6 Parkway North Center, Deerfield, IL 60015. EEO/AA

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Database Administrator, Magazine Publication. Minimum 6 years exp. Design, program, and implement database applications. Provide database systems administration, including managing users, defining user security policies, and disaster recovery. 40 hrs/wk, 9AM-5PM. Competitive salary. Send resume to: Koa Life, 2505 Chamblee Tucker Rd., #311, Chamblee, GA 30341.

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Seeking qualified applicants for the following positions in Memphis/ Collierville, TN: Senior Programmer Analyst. Formulate/define functional requirements and documentation based on accepted user criteria. Requirements: Bachelor's degree* in computer science, MIS or related field plus 5 years of experience in systems/applications development in a mainframe environment. Experience with airline freight rating systems/applications, COBOL and IMS DB/DC also required. *Master's degree in appropriate field will offset 2 years of general experience. Submit resumes to Sibi George, FedEx Corporate Services, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

Senior Technologist, Systems Development sought by Novartis Pharmaceuticals Corporation for East Hanover, NJ office. Must possess a Bachelor's degree or equivalent in Engineering or directly related field and 5 years exp. in software/systems development/design and analysis including Base SAS/SAS Macro language programming exp. for pharmaceutical industry. Respond to: Arlene O'Rourke, Human Resources Dept. Requisition #001, One Health Plaza, B105/PL088E, East Hanover, New Jersey 07936. Novartis is an EEO Employer.

Optimal Solutions Integration, Inc. has multiple openings for SAP and i2 Consultants, Software Analysts and System Analysts. Please send resume with salary history and requirements to Optimal Solutions Integration, 8445 Freeport Parkway #240, Irving, TX 75063. Open to Green Card holders or US Citizens.

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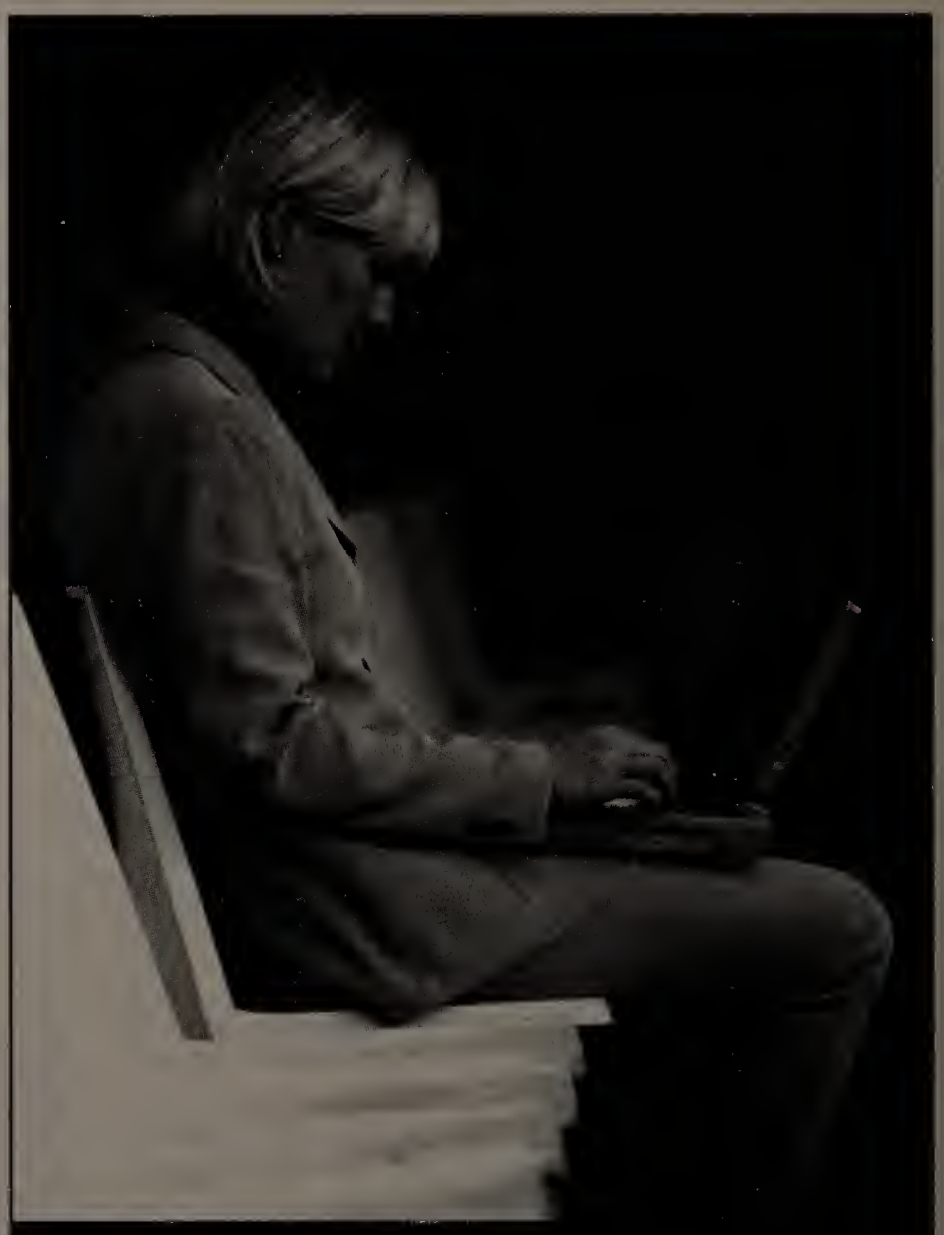
Senior Software Engineer responsible for research, design and developing computer software systems. Will conceptualize, design and construct a framework for business application using various platforms including COBRA/J2EE. Design software systems using application development software and technology such as C++, Java and object oriented design. Must have 5 yrs of exp. in job offered. Salary Competitive. Send resumes to: Wendy Davidson, Mentisys, Inc. 1375 Remington Rd. Ste. A, Schaumburg, IL 60173.



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Architectural lighting designer/ illustrator/illuminating Engineer needed. Seeking qual. candidates possessing BS or equiv. and/or rel. work exp. Part of the req. rel. work exp. must include 1 yr working w/ 3-D modeling and lighting simulation. Formal training in Lighting Design or be a LC preferred. Duties include: Design & develop illuminating, including day lighting, systems; Perform 3-D studies; Write specs; Perform computer simulations. Work with Lightscape, Adobe Photoshop, Viz-4, and AG1-32. Mail res., ref. & Sal. Req. to Affiliated Engineers, PO Box 44991, Madison, WI 53744-4991.

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SENIOR PROGRAMMER/ANALYST to analyze, design, develop, test and implement application software using Visual Basic, C, C++, ASP, Visual Interdev, Active COM, HTML, Java Script, Visual Source Safe, Oracle, SQL Server and Edify under Windows NT/2000 operating systems; Supervise and mentor junior programmers. Require: B.S. degree in Computer Science, an Engineering discipline, or a closely related field with two years of experience in the job offered. Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Send resume to: Murli N. Reddy, Charter Global Services, Inc., 5445 Triangle Parkway, Suite 190, Norcross, GA 30092; Attn: Job NB.

COMPUTER/IT
Applications Database Administrator (White Plains, New York) - Requires Bachelor's degree in CS or Electronic Eng. (or equiv. foreign educ.) & 3 years' exp. in the job offered or 3 years' exp. in use of ERwin & SEI-CMM structured programming methodology to dev. front-end database applications for investment mgmt. & brokerage ops. Exp. must include use of NOMAD on a VM/CMS operating system; and ADP's Brokerage and PSR systems. Utilize ERwin and SEI-CMM structured programming methodology to develop front-end database applications for investment mgmt. & brokerage ops. 40 hrs./wk. 8:30 a.m.-5:30 p.m. Apply with resume to: Alliance Capital Management L.P., Attn: Karen Mooney, 1345 Avenue of the Americas, 46th Floor, New York, New York 10105.

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Ptech

and business alliances at The Lared Group in Los Angeles. "They have not only a legal but also a fiduciary obligation to do this when dealing with sensitive products like the software sold by Ptech," she said.

Ptech CEO Oussama Ziade, however, isn't convinced that lack of research is what now threatens the life of his company [QuickLink 35704].

"How far are we going to go with making links between people?" he asked. "And how are we supposed to know before the fact?" he added, referring to the investigation into his company for ties to individuals who weren't on any government watch list when they were approached by Quincy, Mass.-based Ptech.

In fact, some of the same people whose past connections to Ptech raised federal investigators' suspicions can also be linked to other U.S. companies, according to former senior government terrorism experts and government documents.

For example, Yaqub Mirza resigned from Ptech's board in March 2002 after the FBI raided several Muslim charities and businesses he had helped set up in Herndon, Va.

According to Ziade, a disgruntled former Ptech employee sent an e-mail to the FBI last summer that identified Mirza as a close associate of Yassin al-Qadi, a Saudi businessman who invested in Ptech in 1994 and who has since been added to a government terrorism watch list. That association has been confirmed by at least two former U.S. intelligence officials.

But documents filed with the U.S. Securities and Exchange Commission in 1999 show that Mirza was also a member of the board of directors of Mylex Corp., a developer of RAID and network management technologies that was acquired by IBM that same year. Mirza owned 3.95% of the company, more than any of the other directors or executive officers, according to the SEC documents.

IBM declined to comment. But Kevin Brett, a spokesman for Milpitas, Calif.-based LSI Logic Corp., which subsequently acquired Mylex from IBM, said the Mylex board was dissolved upon the company's acquisition by IBM. He added that LSI has "no insights into the Mylex decision-making process relative to its board of directors during the course of its existence as an independent company."

Meanwhile, Hybridon Inc., a biotechnology firm in Cambridge, Mass., appears to be in a position similar to Ptech's with respect to its investors. A list of investors in a June 2001 Hybridon proxy statement filed with the SEC includes Abdelah bin Mahfouz, the son and business partner of Khalid bin Mahfouz, former head of the The National Commercial Bank of Saudi Arabia. Khalid was placed under house arrest by the Saudi government prior to the Sept. 11 attacks for allowing the bank to channel funds to al-Qaeda front companies, said Vince Cannistraro, former chief of operations at the CIA's Counterterrorism Center.

Earlier SEC filings show that another member of the family, Abdulrahman bin Mahfouz, also held stock in Hybridon. Also a board member of National Commercial Bank, Abdulrahman served on the board of Blessed Relief, a Sudan-based charity that U.S. intelligence officials have characterized as a front organization for Osama bin Laden.

Stephen Seiler, CEO of Hybridon, said his company has conducted "extensive due diligence" to "vet our shareholders." Seiler said his company is "unaware of any link between Mr. bin Mahfouz and any investigation."

But companies in Hybridon's position at the very least face a perception problem, analysts said. "Can these executives seriously expect the public to believe that they didn't know whence the money was coming?" Segil asked. "Is it that they didn't want to know and so didn't check? Or didn't know and didn't care because money is money?" ◗

Asset Management Projects Falling Short

Users and analysts warn against relying too heavily on packaged applications

BY THOMAS HOFFMAN

INFORMATION TECHNOLOGY asset management programs underwent something of a rebirth in recent years as corporate cost-cutting efforts forced IT managers to do a better job of tracking technology investments. But many of the programs have fallen into disrepair, users and analysts said last week.

One of the problems CIOs and other IT executives encounter is that they often place too much emphasis on using asset management software to track their technology inventories, said Pat Cicala, president and CEO of Cicala & Associates LLC, a Hoboken, N.J.-based asset management services and research firm.

In doing so, the IT managers don't pay enough attention to the people and processes needed to manage such efforts, Cicala added. "I'd say that more than 80% of IT asset management programs either stall or become problematic, even if they've got a few years under their belts," she said.

That's why Steve Hammond, vice president of information services at Plasti-Line Inc. in Knoxville, Tenn., recommends that an asset management program be simplified as much as possible. "Don't overcomplicate it with a software solution, where you become a slave to the software," he said.

Plasti-Line, which makes signs, menu boards and other corporate branding products, implemented an asset management program four years ago when it standardized on Dell Computer Corp.'s PCs and servers. Dell slaps an asset tag on every piece of hardware that Plasti-Line buys or leases, and Plasti-Line uses an Excel spreadsheet to track the equipment, Hammond said.

Valassis Communications Inc. considered buying an asset management system. But as a midsize company with just 1,000 PCs, it was hard to show a potential return on investment to justify the purchase, said Amy Courter, vice president of IT at the marketing services firm in Livonia, Mich. Like Plasti-Line, Valassis relies upon spreadsheets.

T-Systems Inc. in Lisle, Ill., this month introduced a service aimed at improving the success rates of companies with faltering asset management programs. T-Systems said the AssetQuickView service, which starts at $20,000, is designed to attack three of the culprits of asset management malaise: lack of documentation, uncertain requirements and incomplete asset inventory data.

Many asset management programs run into trouble because IT departments tend to conduct quarterly sweeps of IT inventories and "end up missing what's going on out there" between the sweeps, said Howard Rubin, executive vice president at Meta Group Inc. in Stamford, Conn. Such programs fail because companies use procedures that "don't give them timeliness and accuracy," he said.

IT departments that are struggling to get funding for asset management programs should start small with a project such as tracking distributed software licenses to show the value of the concept to senior management, suggested Frances O'Brien, an analyst at Gartner Inc. in Stamford. ◗

Keeping Tabs

CIOs and analysts offered the following tips for fixing faulty IT asset management programs:

ARTICULATE the reasons why your program isn't working and create a plan and timeline for demonstrating improvements.

DEDICATE workers to monitor the progress of your asset management efforts instead of making that an added responsibility for IT staffers.

DON'T UNDERESTIMATE the personnel and processes required for an effective program.

CREATE closer ties between the employees who manage your IT assets and end users.

STAY on top of your program and keep pace with constantly changing technology inventories.

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FRANK HAYES ■ FRANKLY SPEAKING

An Uneasy Feeling

IF YOU READ BETWEEN THE LINES of Carly Fiorina's current stump speech — the one she gave at Comdex, the one she gave last week to a group of resellers — maybe you feel a little uneasy. And you should. Hewlett-Packard's CEO has been telling audiences that business is down because corporate customers want to cut IT costs and get real business results from IT. And she calls that a permanent change in customer requirements.

What she means, of course, is that customers no longer just *want* those things. After all, they've wanted them for years, but now they *have* to cut IT costs and get business results, because they no longer have the IT budgets to spend and CEOs have run out of patience with CIO promises.

And if Fiorina is to be believed, she never expects to see healthy IT budgets or a free ride for shiny new technology again.

Do I believe her? Naaah. It's politically correct to sympathize publicly with customers whose budgets have been cut. It's shrewd leadership to tell the sales force there's no use in squeezing existing customers for more revenue. And it's good marketing to stake out a "we'll help you cut IT costs and build value" position.

If Fiorina really thought IT budgets will never recover, she'd have bailed out of HP long before she gave that stump speech for the first time. If your customers' budgets are drying up permanently, you don't want to stay in a business that's doomed to spiral down to nothing.

Then again . . . what if she's right? What if that uneasy feeling isn't just your imagination?

After all, our healthy budgets have long been the basis for our relationship to vendors. For decades, IT shops have turned to vendors for technology guidance. Vendors did the technology research, invented the paradigms, cobbled together "solutions." Then they told us what to do, and we decided whether to spend the money on what they proposed.

We didn't just look to them for products. We depended on them for technology leadership. OK, their technology solutions didn't always pan out as effective business tools. But they were always coming up with something new, so we had a steady stream of new IT ideas. And the system seemed to work pretty well as long as the money kept flowing: They led, we spent.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

But now the money isn't flowing, and we've come to something of an impasse. It doesn't matter how great a vendor's technology solution is if IT shops don't have the budget to buy it. Vendors keep trying to lead, but these days we can't afford to follow.

Sure, that happens whenever the economy's down. But what if Fiorina is right, and there's been a permanent shift to reduced IT spending and an absolute requirement of business advantage from IT projects?

If that's the case, then we *can't* let vendors lead us any longer.

It's not just that we don't have the money. It's also that they don't know our business processes and requirements and users. As tough as it is for IT shops to understand the nuances and peculiarities of what our businesses need, it's far more difficult for technology vendors to understand those things from the outside.

Technology isn't enough. To deliver business advantage, we've got to solve business problems — the problems of *our* business. And that kind of solution won't come out of a box from a vendor.

No wonder Fiorina's words aren't exactly comforting. No wonder they put us ill at ease. If she's right, we can't afford to let vendors lead us — can't afford it from the budget *or* the business advantage standpoint.

And if we can't turn to vendors for IT leadership for our businesses — to give us answers, to offer us solutions, to define what our businesses need — we'll have to provide it ourselves. ◗

One Bad Idea After Another

Support pilot fish races to the scene after he gets the report of a totally trashed PC that's soaking wet and a user who was injured in the process. He finds dirty water everywhere, a galvanized pail, a ceiling tile – and an explanation. "The user put the bucket in the ceiling, to catch water from a minor leak overhead," says fish. "Over time, the bucket filled with water – and it finally broke through the ceiling tile."

SHARK TANK

Stuck

"I walked into the office one Monday morning to find a mud-encrusted, mangled red metal box lying on my desk," pilot fish reports. It's the box for transporting the week's backup tapes. What happened? The tech transporting the tapes got stuck in a graveled parking lot, so he used it for leverage under his rear wheel, boss tells fish. Did he remove the tapes first? fish asks. Boss shrugs: "He didn't have the key."

Cool, Dude!

The new cooling system for this office is delayed, so the project manager buys a room air conditioner and points it at the server. "But the back end of his air conditioner was blowing hot air into the room," says pilot fish on the scene. "It took some work to convince him that this actually made the room hotter."

Toast

User tells support pilot fish that his PC keeps locking up. "His old PC has two faceplates missing from expansion bays," fish says. "Looking into the open bays, I saw a sandwich lying on the hard drive." Yeah, so? user says. "I always put my lunch in there to keep it warm."

Details, Details

Local government pilot fish works with techs from phone company, which won a contract to install ATM networking downtown. "The night we were installing the first link," fish sighs, "I heard their network engineer mumble, 'It didn't work in the lab either.' That's when I had to teach those field engineers the difference between optical saturation and minimum power requirements."

Crazy Notion

It's 1980, and this pilot fish needs to deliver a report pronto to his boss on a university campus 200 kilometers away. Fish's terminal is connected to the mainframe on his boss's campus, so he sends the report to a professor who uses the mainframe. "I headed the report with a line that politely asked the prof to send an assistant to deliver the report to the other building," fish remembers. "The professor was outraged, and replied, 'The computer is not for sending messages!' "

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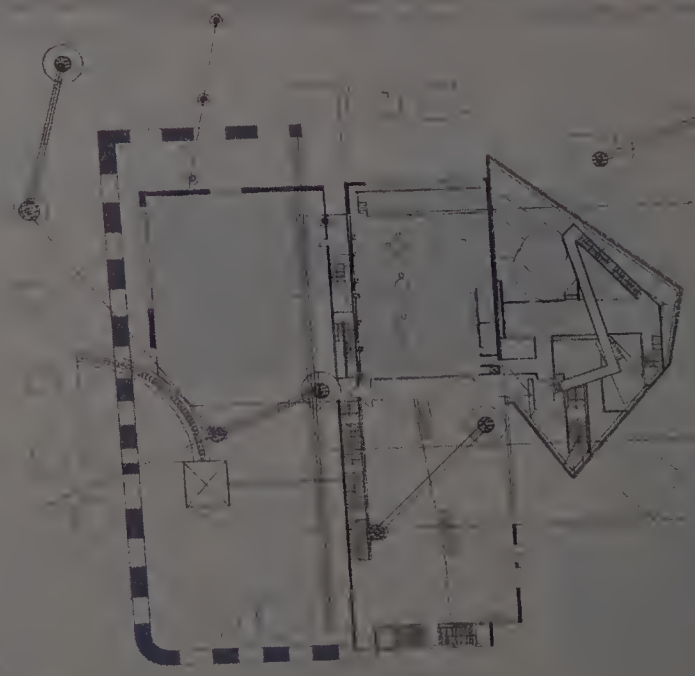

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